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ABSTRACT

During a study examining vocational trends and priorities in Missouri, separate survey instruments were sent to 1,471 employers, 843 teachers, and 2,108 students in order to gather data on the following topics: the performance of vocational education, its priorities, collaboration between vocational education and the world of work, and indicators of programming adjustments needed in vocational education. All three groups of respondents had favorable views of Missouri's vocational programs. Survey data also revealed a remarkable similarity between the opinions of educators and employers about priorities in vocational education, with both groups placing the highest priority on developing work attitudes and human relations skills. Also cited by both groups was the need for retraining adult workers as another major goal of vocational education. With respect to the issue of cooperation between educators and employers, all three groups of respondents favored the idea. Many student respondents expressed an interest in more opportunities for participation in cooperative vocational programs. Based on the small numbers of firms already having such agreements with vocational schools at the time of the survey, it appeared that this is one particular area in which the immense potential resources have barely been tapped. (Appended to this report are copies of all three survey instruments and data tables summarizing student survey results.) (MN)

THE YEAR OF THE PUBLIC SCHOOLS, 1983-84

ED247386

Vocational Education Trends and Priorities

A Study of Vocational Education in Missouri

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VOCATIONAL EDUCATION TRENDS AND PRIORITIES: A STUDY OF VOCATIONAL EDUCATION IN MISSOURI

PERCEPTIONS OF VOCATIONAL-TECHNICAL EDUCATION IN MISSOURI BY EMPLOYERS, EDUCATORS, AND STUDENTS

A Summary Report of Three Survey Studies

Prepared for

The 1984 Vocational Study Committee
Reaching for Excellence

by

The University of Missouri-Columbia
College of Education
Research Staff

1984

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EXECUTIVE SUMMARY

To provide a base of information related to the objectives established by The 1984 Vocational Study Committee: Reaching for Excellence, a study was conducted by the University of Missouri-Columbia. It included three separate surveys involving large groups of employers, educators, and students. These surveys were designed to collect the opinions of the participants with focus on four topics, namely: (1) performance of vocational education; (2) priorities of vocational education; (3) collaboration between vocational education and the world of work; and (4) indicators of programming adjustments needed in vocational education.

Employers' Survey

This survey involved 1,471 employers across the state, representing a cross-section of different types and sizes of firms. The instrument was a modification of the form used in a national survey of employers which was conducted by the National Association of Manufacturers (NAM) and the National Center for Research in Vocational Education. Approximately 71 percent of the Missouri sample responded in contrast to 40 percent in the national survey. The analysis of the survey responses yielded the following:

Background Information

1. Respondents were primarily the chief executive officers of small to medium-size firms.
2. These firms offer some forms of initial employment training on a limited basis which might well be incorporated into the vocational education curriculum.
3. Of the training that firms provide, less than one-fourth was considered as firm specific (of value to that one particular firm.)

Performance of Vocational Education

4. For jobs requiring less than a four-year college degree, 75 percent of employers preferred hiring vocational education graduates rather than those with no vocational education, all other factors being equal. Approximately 83 percent indicated that they sought employees with a vocational education background. These favorable responses were fairly consistent irrespective of the size of the firm.

5. Over 72 percent of respondents indicated that their company benefited from vocational education. Approximately 40 percent reported that vocational education saved their firm money in training costs. The larger the organization, in terms of number of employees, the higher the percentage of benefits and savings attributed to vocational education.

Priorities Relative to Vocational Training

6. "Developing positive work attitude and constructive human relations skills" received the highest priority. This outcome had also received major emphasis in the national survey, where it was specified as "employability skills."

7. "Developing vocational/technical knowledge and skills" received the next highest ranking in priority.

8. "Communication skills," "basic academic skills" (reading, writing and arithmetic) and "providing and developing work experience" were considered essential and were ranked third, fourth, and fifth respectively.

Alternatives in Vocational Education

9. Vocational/occupational preparation and training of youth received the highest emphasis from 67 percent of the respondents.

10. Collaboration with the private sector was considered essential in upgrading vocational education. Approximately 96 percent of the respondents indicated average to high emphasis on this plan of action.

11. Retraining and providing for re-entry skills for adults also was a serious concern--with approximately 89 percent of the respondents giving it average to high emphasis.

12. Approximately 87 percent of the respondents favored specialization in fewer areas of training which could be focused on local/regional needs.

13. Increasing the variety and range of curricular offerings by each school received the least emphasis.

Collaboration: Ways by Which Firms May Cooperate with Public Secondary and Post-Secondary Vocational Education to Increase Productivity of Workers

14. Collaboration between vocational education and the world of work was strongly endorsed by respondents. About 20 percent already had some cooperative arrangement. Of the remaining 80 percent, up to 65 percent expressed strong willingness to engage in participatory activities, compared to about 11 percent expressing a lack of interest.

15. Of seven forms of collaboration, "participation in upgrading vocational programs" seemed to be the most preferred with endorsement by over 80 percent. "Allowing company equipment to be used on-site by vocational students" and "allowing company employees release time to teach in schools" were least favored, with only 32 and 41 percent respectively considering them a likely arrangement. Even so, the overall potential for establishing collaborative arrangements was most encouraging.

16. Among the problems in collaboration, "lack of job openings for trainees" seemed to be the only major concern, as indicated by 49 percent of the respondents. The next two issues of any serious nature were "inflexibility of schedules" (with approximately 19 percent), "control and supervision problems" (with approximately 14 percent). Other problems, in general, were considered rather inconsequential.

17. Although 88 percent of the respondents were in favor of establishing working relationships with vocational education, the specific modes of collaboration preferred by them varied considerably depending on the size of the firm.

18. In comparing the responses of empoyers in this study and the national survey, striking similarities and parallels appeared to exist with regard to the "setting of priorities," in terms of "favorable perception of performance," and in their willingness to "actively participate in vocational education improvement."

Educators' Survey

This survey involved the educators in Missouri Area Vocational-Technical Schools. The survey questionnaire was developed by a research team of the University of Missouri-Columbia, addressed seven specific study objectives and was completed and returned by educators in 54 out of 58 participating schools--a 93 percent return. There were 843 participants in the survey including 53 administrators, 675 instructors, and 32 guidance counselors. Eighty-three remaining participants had not identified their status and were, therefore, categorized as unclassified. The participants were further grouped according to their field of vocational specialization, number of years of professional service in vocational education, years of practical related experience, and rural-urban setting of their schools. The analysis of the survey responses yielded the following:

Priorities in Vocational Education

1. Developing "positive work attitude and constructive human relation skills" was considered the most important outcome by all groups of respondents.

2. Developing "vocational and technical knowledge and skills" received the next highest ranking in training priority.

3. Developing "basic academic skills," "communication skills," and "work experience" were considered essential and were ranked third, fourth, and fifth respectively.

Vocational Education Options

4. "Vocational/occupational preparation of youth at secondary level" was highly emphasized followed by "offering training designed to meet employer needs on a local basis."

5. Options receiving above average emphasis included "retraining and re-entry skills for adult workers" followed by "offering training designed to meet employer needs on a statewide basis.

6. Options receiving average emphasis included "offering training designed to meet student needs," "providing a wide variety of courses rather than specializing in fewer areas of training," and "vocational/occupational preparation of youth at the post-secondary level only."

7. The least emphasized option was "specialization in fewer areas of training."

Collaboration with Industry for Enhancement of Vocational Education

8. Of eleven forms of collaboration, "providing part-time work experience for vocational education students" was the most favored method of collaboration, followed by "participation in placement and school-to-work transition for vocational education graduates," and "providing work experience for vocational education instructors to update their occupational skills."

9. The least favored methods of collaboration were "using company employees on release time to teach vocational education courses," followed by "providing use of company equipment and machinery for vocational education programs.

Problems in Collaboration with Industry

10. The great majority of the respondents indicated that most of the possible problems did not exist in their situation. Of nine potential problems, only two seemed to be somewhat of a major concern. They were "lack of job openings for trainees" followed by "inflexible schedules."

Strengths and Weaknesses in Vocational Education

11. In contrast to fairly strong consensus of opinion concerning previous questions, there was a marked divergence of viewpoints among the participants regarding this question. Of 25 vocational education components, seven were considered to be "strong" by more than 70 percent of the respondents. "Developing technical skills" followed by "curriculum relevancy" topped the list with over 80 percent rating them as strong.

12. There were five components which were considered to be "weak" by more than 40 percent of the respondents. The "student recruitment" closely followed by "developing academic basic skills," vocational guidance and counseling," and "financial resources," were in this group.

13. Respondents had also expressed their opinion about resource allocations for various components of vocational education. The majority of those who considered a component relatively "strong," seemed to favor maintaining its current resource allocation level. For the components which were considered weak, however, an increase of resource allocation was strongly favored.

Choice of Criteria for Vocational Education Programs

14. The participants were asked to rate six criteria which may be used when deciding to continue, discontinue, expand or reduce a vocational education program. Although all six criteria were considered valid, four of them seemed to be distinctly preferred by the majority of the respondents. They were (1) placement rate, (2) advisory committee recommendations, (3) local employment survey, and (4) student enrollment preferences.

Factors Promoting or Inhibiting the Improvement of Vocational Education

15. The participants were asked to rate the effect of 15 recognized factors on promoting or inhibiting the improvement of vocational education programs. There were certain dissimilarities between the responses of different subgroups of educators. The respondents who could not identify an item either as a promoter or an inhibitor, varied from 3 to 31 percent, depending on the item.

16. On the positive side, the majority of the factors which were listed, were considered to have a promoting effect. According to 92 percent and 84 percent of the respondents, the two factors which topped the list were "present level of teachers' skills," and "present level of teachers' attitude (morale)," respectively.

17. Five factors were considered an inhibitor by a considerable number of respondents. They were (1) present coordination with other high school programs, (2) present funding level, (3) present funding pattern, (4) present image of vocational education, and (5) present student recruitment procedures.

Students' Survey

This survey involved 2,108 students from 17 rural and 2 urban area vocational-technical schools in Missouri. Nearly all the students were graduating seniors although a small percent was accounted for by adult students and high school juniors. The response rate was approximately 40 percent which may have been reduced by the timing of the survey's distribution that occurred during the month of May. The sample represented all program areas, but it lacked sufficient numbers and geographic dispersion for adequate representation of and generalization to urban students. The analysis of students' responses to the survey revealed the following:

Enrollment Patterns and Employment Status

1. Enrollments in vocational programs continue to exhibit traditional patterns for male and female students.
2. Slightly over 60 percent of the vocational students in the sample were employed when they completed the survey. Over 80 percent of those students were employed part-time.
3. Over 50 percent of the students with jobs reported that those jobs were in occupations unrelated to their vocational training.

Priorities in Vocational Education

4. There was considerable variation in the average rankings assigned to the major priorities in vocational education by students in different vocational programs.
5. Students in vocational programs for service oriented occupations considered the development of positive work habits and attitudes as the most or second most important priority for vocational education.
6. Students in other programs generally considered basic skills and technical skills development as the most important priorities in vocational education.

Evaluation of Vocational Education

7. Students rated the quality of their vocational programs, resource materials, and instructional methods favorably with the exception of microcomputer availability.

8. Students agreed that the most important criterion for evaluating vocational education programs is placement in a job related to their training.

Students' Future Plans

9. The proportion of students with future plans related to their current training exceeded the proportion with future plans unrelated to their current training by a ratio exceeding three to one.

10. Significant proportions of students anticipate pursuing the following major categories of future plans: further vocational training, a college education, and immediate employment.

11. Approximately 40 percent of students in nearly all programs anticipate leaving the local labor market to pursue their post-graduation plans.

Views on Business and Industry Collaboration

12. Students agreed that business and industry should be more involved in vocational education.

13. Students agreed that business and industry should have a role in evaluating vocational education programs.

14. Students agreed that instructors should have recent occupational experience in a business or industry setting.

15. Student opinion was split on the desirability of attending vocational education classes at a business or industry location.

CONCLUSIONS

The opinions and viewpoints of the employers, educators, and students, provided useful insights about the "direction of vocational education" in Missouri, particularly in the following areas:

Image of Vocational Education

Vocational education is favorably perceived by the business community in Missouri. Similarly, the responses of educators in the Area Vocational Schools indicate a high standard of professional accountability and pride on their part. The vocational students also seem to have a rather high opinion of their education.

This favorable image of vocational education by the business community and within the system itself is precious, but it cannot be taken for granted. It also needs to be extended outside the system, particularly for the general public.

Priorities and Options in Vocational Education

There seems to be a remarkable similarity between the opinions of educators and employers about priorities in vocational education. Both groups put the highest priority on developing positive work attitudes and human relation skills, followed by developing vocational-technical skills, communication skills, and basic academic skills. Developing work experience, although important, is not a high priority. The students, however, seem to have a different outlook. This necessitates a more careful analysis of expectations of various groups. Since priorities set by different groups indicate their preferences about outcomes of vocational education, the program offerings and curricula need to be re-examined, and in some instances redirected, if the expectations of different groups are to be accommodated.

It appears also that both the employers and educators recognize the need for the retraining of adult workers as another major role of vocational education in addition to occupational preparation of youth. With the rapid changes in technology, the growing need for adult vocational education would have far reaching implications for all services provided through vocational education.

The levels of emphasis set by the respondents on a number of options of vocational education, although indicative of their relative preferences, are not sufficiently informative. They need to be subjected to further study and analysis.

Cooperation Between Vocational Education and the World of Work

The educators and employers in Missouri seem to strongly favor closer cooperation between the two groups, for their mutual concerns about occupational training of youth and for upgrading the skills and retraining of adult workers. Both groups seem to consider only one problem (lack of job openings) as a serious barrier. There is also a remarkably close agreement between the opinions of the two groups concerning their preferences for areas of cooperation. The students also have expressed their preference and desire for more active participation and cooperation of industry with schools for vocational education. However, considering the small number of firms who already have a working arrangement with vocational schools compared to the vast number of those who have expressed willingness to get actively engaged, it must be concluded that the immense potential of such cooperation has been barely tapped in Missouri.

Indicators for Programming Adjustments

The perceptions of educators and students toward strengths and weaknesses, promoters and inhibitors, and resource allocation preferences for various components of vocational education, give us a fairly detailed panorama of the indicators for programming adjustments. Although they resolve many questions, they also raise some new ones about the "pockets" of strength and weakness, their interrelationships, and the reasons underlying the divergences of opinions among different groups. These findings would be very valuable if they were combined with informa- collected from evaluation and assessment of vocational education by other sources and follow-up studies.

The same is true about the choice of criteria for expansion or contraction of given vocational education programs. Although the respondents have expressed their preferences for certain criteria compared to others, all the suggested criteria seem to be valid. It would be more appropriate, therefore, to use a combination of suggested criteria—as a "composite index"--rather than any single criterion.

INTRODUCTION

This report summarizes the opinions of large groups of employers, vocational instructors, vocational administrators, counselors and vocational students concerning vocational education in Missouri. These opinions were collected in conjunction with the project "Vocational Education Trends & Priorities: A Study of Vocational Education in Missouri." This broad base of information was the outcome of three separate survey studies conducted in 1984 by a research team of the University of Missouri-Columbia. The three major topics which were addressed by these surveys are central to decision making about the future direction of vocational education in Missouri. They included: (1) priorities in vocational education; (2) cooperation between vocational education and the world of work; (3) indicators of needed program adjustments in vocational education.

Priorities in Vocational Education

When vocational programs were introduced into the public education system during the early 1900s, it was relatively easy to identify a set of expected outcomes for vocational education. As society developed in complexity, as technology advanced, as the economy mushroomed, as the population expanded, as school enrollments increased and clientele became more diversified, and as programs multiplied, new outcomes were added to the list of expectations. By 1979, the list of outcome expectations was found to exceed 250 (Farley, 1979). Multiplicity of expectations make it increasingly difficult to ensure equitability, congruence and quality of the programs.

Although there seems to be a strong consensus about concentrating on a limited number of outcome expectations from vocational education programs, it is not easy to find agreement about the best outcomes to support and which outcomes to disregard (McKinney, 1983). A primary bottleneck in setting priorities for vocational education programs is the changing labor market demands. The accurate determination of vocational training needs requires reliable occupational and employment forecasts (Taylor, 1983).

In view of the complexity of factors and uncertainty of events, occupational forecasts are far from being totally reliable and precise. Occupational forecasts, at best, refer to changes in broad occupational and employment categories, which correspond with major subdivisions of vocational education, or program areas. Therefore, national occupational and employment forecasts find more applicability for policy making and coordinating of major changes on vocational education at the national, regional, than at the state and local levels for the establishment of priorities.

A second level of labor market information relates more closely to decision making for vocational education programs at the local level. It involves determining the pressing needs of the community within a relatively short and foreseeable future regarding the pretraining and retraining of workforce as well as adapting the curriculum to new and emerging technologies.

Collaboration Between Vocational Education and the World of Work

Throughout the history of vocational education movement in the United States an active and effective relationship with the world of work has been emphasized. Beginning with the nation-wide survey, which preceded the enactment of the Smith-Hughes Act of 1917, and continuing through numerous

subsequent surveys, education and business leaders have expressed their need for mutual cooperation (Barlow, 1973). Business has looked to vocational education for the promise of an increased supply of skilled workers and enhancement of an "appropriate" attitude toward work. Educators have looked to linkage with business and industry in the hope of facilitating the movement of individuals from training to gainful employment and making schooling more relevant and responsive to student interests and community needs.

One avenue of linkage between vocational education and the world of work has been through the establishment of advisory groups. Since 1917, a number of national and state legislative actions related to vocational education have required the formation of "advisory groups." (Calhoun, 1976). These groups, which have been identified by different names such as advisory boards, commissions, committees or councils, have been set at local, state and national levels with a broad range of representation from business, labor, and other concerned citizens.

The effectiveness of advisory councils has been varied. A number of studies in Missouri and other states have revealed that the full potential of advisory councils are not being realized (Behymer, 1977). A number of issues such as status, identity, role, organization, which impact effective relationships among Boards of Education, other manpower agencies, industry and labor have been identified (Clary, 1970). Consequently, in the 1968 and 1976 Vocational Education Amendments, provisions were introduced to enhance the status and capabilities of advisory councils on the national and state levels (Bogetich, 1979). Parallel efforts by the state educational organizations have focused on improving the effectiveness of local advisory committees (Cochran, 1981).

Effective utilization of advisory councils is an essential first step in linking vocational education with their communities. A second step involves the establishment of actual collaborative relationships with industry. Building links between schools and communities, in general, has gained considerable prominence since the public interest in the educational reforms was stimulated by the widely acclaimed report, "A Nation at Risk" (Seeley, 1984). Vocational education, in particular, has focused on a dynamic linkage with employers as the most effective general strategy to insure reform and "excellence."

The Committee on Vocational Education and Economic Development in Depressed Areas have reported a detailed and descriptive analysis of some successful collaborations between vocational educators and the world of work. In their report, "Education for Tomorrow's Jobs," they have elaborated on the benefits of collaborative efforts to employers, students, and schools, and have reported the characteristics of successful efforts. Finally, the establishment of " . . . mechanisms and incentives . . . to induce educators and employers to work together in the planning and provision of occupational education and training," has been the first in their list of recommendations (Sherman, 1983).

The imperatives of excellence for vocational education is to move from dialogue to action, and from cooperation to collaboration, with the world of work. The message is clear, but the answer is not. What methods of collaboration are best suited for different types and sizes of business and industrial organizations? What types of collaboration are best suited for different levels and programs of vocational education? What types of collaboration are best for different groups of trainees? What are the problems, pitfalls, and barriers related to each type of collaboration? What types of organizational structures are needed to insure continuity and

growth of collaboration? How can the necessary components of linkage in terms of leadership, policy and decision-making, directing, administering, supervising, problem-solving, and evaluating be developed? What financial outlays will be required, and how will they be met? How will the educational objectives and job skills of future employees be determined and translated into collaborative programs? How will the requirements for equal educational opportunity be met? How will the integrity of public vocational education in terms of education versus training needs, long-term versus short-term needs, broad versus narrow needs, and immediate versus future needs of students be affected?

These and other related questions cannot be answered by a single study. A series of interrelated studies are needed, ranging from exploratory to evaluative and futuristic. This particular study has been exploratory in nature as it sought to generate the necessary information and provide the foundation for more in-depth studies.

Improving and Modifying Vocational Education Programs

The issues which enter into planning and policy-making in vocational education cover a very broad range of complicated and interrelated matters. Some deal with its exclusive system involving its inputs (students and resources), its processes (instructions and programs), and outputs (quantitative and qualitative outcomes). Others deal with the inclusive system of vocational education involving local, state, regional, national, international, social, cultural, political, economical, and technological factors which affect it.

Making adjustments and modifications in the existing vocational education programs, although less complicated than planning the whole system, is rather intricate. It requires a clear vision of realistic

objectives to achieve, an in-depth and unbiased base of information about strengths and weaknesses of various components of the programs, factors which promote and inhibit improvements, priorities for allocation of resources, and choice of valid and reliable evaluation criteria.

Framework of the Study

Purpose of the Study

The purpose of the study was to solicit the views and opinions of various groups who are considered to be the "direct partners" in vocational education, namely, (1) students and trainees; (2) vocational educators including instructors, administrators, and counselors; and (3) employers. The major topics of information which were sought related to: (1) priorities in vocational education; (2) cooperation between vocational education and the world of work; and (3) indicators of needed program adjustments in vocational education.

Design of the Study

The study consisted of three exploratory surveys. First, a survey of a large group of employers in Missouri was conducted early in 1984. Based on the conclusions and recommendations of this survey, two other surveys were undertaken: one including vocational students, and another the educators in area vocational technical schools including instructors, administrators, and counselors.

Employers' Survey. A survey form was developed by a research team of the University of Missouri-Columbia and was reviewed by staff members of the Division of Career and Adult Education of the Missouri State Department of Elementary and Secondary Education. The instrument was a modification of the form used in a national survey of employers which was conducted by

the National Association of Manufacturers (NAM) and the National Center for Research in Vocational Education. This was done to facilitate making a comparative analysis of the findings.

The survey forms, along with a cover letter from the Missouri Commissioner of Education, were delivered to employers in a large number of firms across the state and later on collected from them with the close cooperation of the administrators and faculty in area vocational-technical schools (see Appendix A for the types and numbers of participating firms, the cover letter, the survey form used in this study, and the survey form used by NAM).

Educators' Survey. The survey form was developed by a research team of the University of Missouri-Columbia. It adapted two sets of items for the Employer's Survey Form. In addition, it included other sets of items to provide a base of information related to specific objectives established for The 1984 Vocational Study Committee: Reaching for Excellence.

The survey form, along with a cover letter from Dr. Frank Drake, Assistant Commissioner for Career and Adult Education, were mailed to all the Missouri Area Vocational-Technical Schools. They were completed and returned by the administrators, instructors, and counselors of 54 out of 58 schools (See Appendix B for the names of participating schools, the cover letter, and the survey instrument).

Considering that this survey was conducted in the month of May--a very busy month for the educators--and that the survey form was somewhat lengthy, the exceptionally high proportion of responses received was most encouraging.

Students' Survey. The instrument for this survey was also developed by the research team of the University of Missouri-Columbia. It included one

set of items which were common to surveys sent to both employers and educators. In addition, other sets of items were included to enable students to indicate their future plans and to assess their opinions of the vocational education they had experienced.

Vocational education is a complex activity that seeks to meet the diverse needs of many diverse groups. However, regardless of the plurality of goals for vocational education, a primary objective is to prepare students for participation in the labor market. Those students represent an integral component of the vocational education delivery system as they are active partners in the day-to-day delivery of vocational education, consumers of the experiences and training provided, and products of the vocational education process.

Students, then, are <u>active</u> participants in vocational education who play vital roles in its operation and ultimate success. As with other participants in vocational education (e.g., employers, teachers, and administrators), students have a vested interest in the goals they strive toward and the means employed to reach those goals. Student perception of those goals and means have a substantial impact on vocational education programming and outcomes. Therefore, asking students to provide information relevant to policy-making and programming in vocational education is both justified and necessary. However, students in Missouri's vocational education programs are not a homogeneous group. Several key factors related to the delivery of vocational programs, students' relevant job markets, and students' educational experiences are different and might influence the expectations they bring to a vocational education program and the evaluations they make of their participation. Those key factors include:

1. Vocational education programs are offered in both rural and urban schools which serve labor markets that differ in size as well as occupational composition.

2. Students enroll in a variety of different vocational programs, each designed to prepare students for different occupations with different employee demands.

3. Vocational programs differ in the number of years they are available to students.

4. Students differ in terms of basic demographic characteristics such as sex, race, and age which could have an influence on relevant experiences, maturity, and aspirations.

5. Many vocational students are already active participants in the labor market. This experience in the world of work may influence students' perceptions of vocational education priorities and delivery as well as their own post-graduate plans.

Using the basic premises that vocational students' perceptions of relevant goals and methods are important to programmatic decision-making in vocational education and that those perceptions may differ based on student characteristics, a survey instrument was designed. The survey asked students to provide demographic information, the rank-ordered importance of the five major emphasis areas in vocational education (e.g., basic skills, work experience, communication skills, work attitudes and human relations skills, and vocational-technical skills and knowledge), ratings of twenty-six items concerning various aspects of vocational programming, and information about their post-graduation plans. Appendix C-I contains a copy of the final survey form.

Participants in the Study

Employers' Survey. Employer's survey forms were delivered to 1,471 employers in business and industrial firms throughout the state of Missouri. The employers represented a cross section of different types and sizes of firms. A list of the participating firms by Standard Industrial

Classification categories and codes, is given in Appendix A. Approximately 50 percent of the firms responding to the survey employed fewer than 20 persons. An additional 27 percent employed between 20 to 99 persons. The remaining 25 percent of the firms had an employment of more than 100 persons each. The number of employees in 4 percent of the firms exceeded the 1,000 mark. A summary of the participating firms as classified by major business function and size of employment is given in Table 1.

TABLE 1
Major Business Function and Average Yearly Employment

Number of Employees	Frequency	Percent
Under 20	490	48
20-99	284	27
100-249	114	11
250-999	99	9
1000 plus	46	4
Missing	12	1
TOTAL	1,045	100

Major Business Function	Frequency	Percent
Agriculture	17	2
Mining	2	2
Construction	37	4
Manufacturing	205	19
Transportation	24	2
Wholesale Trade	20	2
Retail Trade	314	29
Finance, Ins. Re.	82	8
Services	283	26
Public Administration	19	2
Missing	39	4
TOTAL	1,042	100

Of the 1,471 survey forms delivered, 71 percent were completed and returned—in contrast to 40 percent return in the national study by NAM. Of those completing the survey instrument, 29 percent identified themselves as the president or chief executive officer of their company (See Table 2).

TABLE 2
Person Completing the Survey Instrument

Position or Title	Percent
President or CEO	29
V-P Industrial Relations	3
Personnel Manager	18
Human Resource Director	1
Employment and Training Manager	7
Other	41
Missing	1
TOTAL	100

Although the participatory firms constituted a large number of establishments with a wide cross section of different types and sizes, there was no assurance of their selection fitting the strict statistical sampling requirements. No attempt, therefore, was made to "generalize the findings" to all industries in the state.

Educators' Survey. The educators survey was mailed to 58 Area Vocational-Technical Schools. The administrators, teachers and counselors in 54 schools completed and returned the survey forms within the short stipulated time. This constituted a 93 percent return--a rather exceptional response for survey studies.

Of the 843 participants in this survey, 80 percent were instructors, about 6 percent were administrators, a little less than 4 percent were counselors, and approximately 10 percent had not clearly indicated their status (See Table 3).

TABLE 3
Number of Participants in the Educator's Survey

Title	Number
Administrators	53
Counselors	32
Teachers	675
Unclassified	83
TOTAL NUMBER	843

The participants were asked to specify the area of vocational education in which they were employed and specialized. The classification of teachers by this field of specialization or "major" is summarized in Table 4.

TABLE 4
Number of Teachers in the Survey
in Different Areas of Specialization

Field of Specialization	Number
Agriculture	52
Business & Office Occupations	91
Distributive Education	36
Health Occupations	87
Occupational Home Economics	19
Technical Education	44
Trade & Industrial Occupations	346
TOTAL	675

The participants were also asked to indicate (1) how many years they were employed in vocational education, and (2) other than school related, how many years of practical experience they had in their vocational field of specialization. The classification of the participants by the years of

professional service in vocational education and by number of years of out of school practical experience in their field of specialization is given in Tables 5 and 6 respectively.

TABLE 5
Number and Percent of Participants in the Survey According to Number of Years of Professional Service in Vocational Education*

Number of Years of Service	Number of Participants	Percent of Participants
0 to 2 years	135	16
3 to 5 years	157	19
6 to 10 years	202	24
11 years or more	310	37

*Approximately 5 percent of the participants (39 in number) did not indicate their years of service in vocational education.

TABLE 6
Classification of Different Subgroups of Participants in the Survey According to Their Out-of-School Years of Practical Experience in Their Vocational Field of Specialization*

Participants	Years of Related Practical Experience			
	0 to 2 years	3 to 5 years	6 to 10 years	11 years or more
Administrators				
number	1	8	8	36
percent	2	15	15	68
Counselors				
number	4	8	9	11
percent	12	25	28	34
Teachers				
number	104	119	175	247
percent	16	18	27	38
TOTAL number	109	135	192	294
percent	15	18	26	40

*Approximately 13 percent of the respondents (113 out of 843) could not be classified because of missing information.

The participants were also grouped under the categories of Rural and Urban. Those from the schools located in urban/metropolitan setting were classified urban and the remaining as rural. The number of participants in each subgroup are shown in Table 7.

TABLE 7
Participants from Rural and Urban Settings

Position of Participants	Rural Setting N	Urban Setting N
Administrators	39	14
Counselors	27	5
Teachers	503	172
Unclassified	69	14
TOTAL	638	205

Students' Survey

A random sample of seniors and other students in Missouri's A.V.T.S.'s who were expected to complete their vocational programs in the spring of 1984 was selected by selecting 23 schools at random from the population of A.V.T.S.'s. Based on estimates of the number of students in each vocational program provided by the Missouri Department of Elementary and Secondary Education, a total of 5,600 surveys forms were distributed to selected Area Vocational-Technical Schools. The instructions asked that a survey form be completed by every senior enrolled in the school's program.

Describing the sample of students in Missouri Area Vocational-Technical School's programs was a specific objective of the student survey. Therefore, response rates and the characteristics of sample members are addressed in the Results section associated with the student survey.

Analysis of Data

Data analysis involved a descriptive methodology as responses to each item were recorded in either percent or frequency form. Those questions asking scaled rating responses were described using the mean. Cross tabulations were made in certain instances to see if there were significant divergence among the perceptions of subgroups for each category of respondents.

SURVEY #1

Perceptions of Employers
Concerning Vocational-Technical Education in Missouri, 1984

Framework of the Study

The general framework of the study including its purpose, design, instrumentation, participants and sampling methods, along with the procedures for collection and analysis of data have been described in the introduction of this report (pages 16-17).

This survey involved 1,471 Missouri employers representing a cross-section of different types and sizes of firms. The details about the respondents and the types of firms involved according to their major business function and the number of employees are reported on pages 19-21 of this report.

Objectives of the Study

The general purpose of this survey was to identify the opinions of employers in Missouri concerning vocational education. More specifically, the objective of the study was to seek answers to the following questions:

1. What types of vocational trainings are offered by industry?
2. What is the employer's performance rating of vocational education in terms of the preparation of youth for work?
3. What relative priority should be placed on the major outcomes of vocational education?
4. What degree of emphasis should be placed on certain specific vocational education options?
5. What are the main barriers to collaboration between vocational education and industry?
6. What types of collaboration with vocational education are of the most interest to industry?

Findings for Survey #1

The responses of the employers to various questions where organized, analyzed, and summarized to correspond to each of the five specific objectives/questions of the study.

Question #1: What types of vocational training are offered by industry?

The primary goal of this study was to provide a base of information which would permit recommendations related to cooperative efforts between vocational education and industry. In order to identify potential areas of cooperation, it was necessary to know the opinion of employers about training offered by industry. Tables 8 and 9 reveal existing training provided by respondents and those areas of training they would prefer to have provided by school vocational education programs.

TABLE 8
What Kinds of Initial Skill Training Does Your Firm Provide?

Type of Training	Training (Percent)	No Training (Percent)
Before job-assignment	23	77
Formal on-the-job	72	28
Lecture series, seminars	26	74
Off-site, tuition reimbursement	29	71
Apprenticeship	20	80

Table 8 indicates that 72 percent of employer training is on-the-job training with close to 30 percent offering off-site training and tuition reimbursement. This finding, as well as others shown on the table, is consistent with that reported by the National Association of Manufacturers survey in 1981.

The findings reveal that while training is needed, businesses are limited in their capability to give needed direct training to their employees. As reported in Table 9, 41 percent of the training activities that occur on-site are less than 25 percent "firm specific."

TABLE 9
Proportion of Training Considered Firm Specific

	Percent
More than 75 percent	19
50-75 percent	17
25-50 percent	20
Less than 25 percent	41
No response	3
TOTAL	100

If the majority of the training that occurs is not firm specific then it may be assumed that much of the training that does occur would be beneficial if and when the worker changed his/her place of employment. This fact might lead to the assumption that much of the training that respondents provide could be provided by a vocational education program.

When asked to indicate which one of the training areas respondents would like to see become the responsibility of the vocational education programs, over 23 percent selected "before job-assignment training." (See Table 10.)

TABLE 10
Which of the Training Areas Would You Like Vocational Schools to Perform?

Training	Percent
Before job-assignment	23
Formal on-the-job	10
Lecture series, seminars	11
Off-site, tuition reimbursement	8
Apprenticeship	5
No response	43
TOTAL	100

Of the respondents to this question who previously stated that they did not offer firm specific training, a majority would like to see the training included in vocational education. It must be noted, however, that there was considerable divergence of opinion regarding the form of training among respondents depending on the type and size of the firms they represented.

Question #2: What is the employers' performance rating of vocational education in terms of the preparation of youth for work?

Five separate questions relating to the performance of vocational education in one way or another were posed. Judging by the employers' responses, they seem to have a remarkably favorable perception of vocational education.

When asked to indicate their perceived benefits from the existing vocational programs, about 75 percent of the repondents indicated that their firms benefited from vocational education. Slightly over 40 percent reported that public vocational education benefited them through financial savings. (See Tables 11 and 12).

TABLE 11
Does Your Company Benefit from Vocational Education?

Response	Frequency	Percent
Yes	764	72
No	96	9
Not Sure	185	18
No Response	14	1
TOTAL	1,059	100

TABLE 12
Does Vocational Education Save Your Company Money in Training?

Response	Frequency	Percent
Yes	422	40
No	292	28
Don't Know	307	30
No Response	24	2
TOTAL	1,045	100

When asked if they check a job applicant for previous vocational education, 81 percent of the respondents indicated that they do check to see if a job applicant has vocational education. (See Table 13.) Seventy-four percent of the respondents reported that they would give preference to applicants who had graduated from a vocational education program for a position requiring less than a four-year college degree. (See Table 14.)

TABLE 13
Is Vocational Education Checked in Selecting New Hires?

Response	Frequency	Percent
Yes	847	81
No	166	16
No Response	32	3
TOTAL	1,045	100

TABLE 14
For Positions Requiring Less Than a 4-Year Degree Would You Hire a Vocational Graduate Rather Than a Non-Vocational Graduate?

Response	Frequency	Percent
Yes	769	74
No	52	5
Don't Know	194	19
No Response	30	2
TOTAL	1,045	100

These results are consistent with the 1981 National Employers Survey conducted by the National Center for Research in Vocational Education.

When asked to evaluate the performance of employees with a vocational education background compared to those with a general education background, those with vocational education were consistently given a rating of equal or better in all the five areas of comparison (See Table 15.)

TABLE 15
Performance Ratings of Vocational Education Graduates Compared to General Education Graduates

Performance Area	Performance Level			
	Better %	Equal %	Worse %	Can't Tell %
Technical skills	56	27	1	8
Work attitude	30	49	3	11
Work quality	40	41	2	9
Initial training needs	42	38	2	8
Preparedness for work	41	39	3	9

In general, it would appear that employers attend to the fact that employees have a vocational education background and believe that the performances of these employees are at least equal to or better than employees with no vocational education background. In work attitude, 49 percent of the two groups were ranked as equal. Thirty percent ranked the work attitudes of vocational education graduates as better. This finding is consistent with later training needs indicated by respondents.

Question #3. What relative priority should be placed on major outcomes of vocational education?

Three sets of questions were posed to get the opinion of employers about relative priorities in vocational education. Regardless of the manner in which the questions were worded, the responses were consistent. Employers set the highest priority on developing positive work attitude and human relation skills. Second in importance was the development of vocational technical skills. This was followed closely by academic skills and communciation skills. The element receiving the least rating was work experience. The responses related to priorities are summarized in Table 16.

TABLE 16
Priority of Elements of Vocational Education Training
for Youth Work Preparedness and Employability
Mean Rating and Percents

Training Elements	Degree of Priority Highest	High	Average	Low	Lowest	Mean* Rating
Vocational technical knowledge	23	49	23	3	2	3.9
Work attitude and human relations	55	33	9	1	2	4.4
Communication	24	44	22	4	2	3.8
Work experience	14	32	40	7	9	3.3
Academic	26	38	27	5	2	3.8

*5 Highest, 1 Lowest

In considering those priorities necessary for jobs requiring less than a four-year college degree (all else being equal) respondents again placed the highest priority on work attitude and human relationships. The relative importance of other elements were also the same as mentioned above (See Table 17.)

TABLE 17
Hiring Priorities of Attributes Considered
in Hiring for Jobs Requiring
Less Than a 4-Year Degree

Attributes	Mean Rating
Technical vocational skills	3.9
Work attitude and human relations skills	4.4
Communications skills	3.9
Work experience	3.6
Graduation from formal occupational/ vocational training program	3.6
Academic skills	3.8

*5 Highest, 1 Lowest

The overall message given by the employers was consistent and clear. While employers need vocationally-trained individuals, of more importance is the employee's attitude toward work and his/her ability to work with others.

Question #4: What degree of emphasis should be placed on certain specific vocational education options?

The employers were asked to consider five different options in vocational education. The levels of emphasis were on the scale of 3 for high, 2 for average, and 1 for low. The results, as reported in Table 18, are summarized as follows:

1. Vocational/occupational preparation and training of youth received the highest emphasis.
2. Upgrading of training through cooperation with the private sector was rated second in terms of emphasis.
3. Adult education, comprising retraining and providing re-entry skills for adult workers, also received a relatively high emphasis rating.
4. Specialization in fewer areas of training geared to to local/regional needs was fourth in terms of relative emphasis.
5. Providing a wide variety of courses was rated as having the least degree of emphasis among the five options.

TABLE 18
Degree of Emphasis on Vocational Education Options by Percent

Vocational Alternative	Degree of Emphasis		
	High	Average	Low
Specialization in fewer areas of training geared to local needs	41	49	10
Wide variety of courses	22	59	19
Adult education (retraining)	41	52	7
Vocational/occupational preparation training of youth	67	32	1
Upgrading training through cooperation with private sector	47	49	4

Question #5: What are the main barriers to collaboration between industry and vocational education?

The participants were asked to indicate any problems that they have experienced or that they think make it difficult for business to work with high school or community/junior college vocational education. They were given the option to indicate one or more problems from a suggested list and/or specify additional ones.

Only one major concern was noticed—49 percent of the respondents indicated that there was a "lack of job openings for trainees." All other areas of concern were not seen as a problem by 81 percent or more of the respondents. (See Table 19.)

TABLE 19
Problems in Cooperative Training Between Businesses and Vocational Education by Percent

Problems	Problem	No Problem
Schools not interested	2	98
Conflicts in training objectives	8	92
Control in supervising training	14	86
Policy and regulation conflicts	5	95
Inadequate planning	9	91
Inflexible schedules	19	81
No job opening for trainees	49	51
Too costly	9	91

Question #6: What types of collaboration with vocational education is of more interest to industry?

The employers were asked to indicate the ways in which their firm might cooperate with public secondary and post-secondary vocational education to increase productivity of workers—assuming no legal constraints with local statutes or union contracts. Their responses are reported in Table 20.

Whereas only 19 percent indicated that they already have an ongoing cooperative arrangement with vocational education programs in their area, an additional 66 percent mentioned a strong willingness to establish such an arrangement. Only 11 percent gave a negative response.

TABLE 20
Cooperative Training Agendas by Percent

Agenda Items	Not Likely	Quite Likely	Already Have	Missing
Would you be willing to participate in upgrading the vocational programs in your area?	11	66	19	4
Would you be willing to allow your equipment to be used on your premises for vocational programs?	51	32	13	4
Would you be willing to provide part-time work experience for vocational education students?	20	47	30	3
Would you be willing to provide work experience for vocational education instructors such as a summer job?	38	50	6	6
Would you be willing to provide work experiences for guidance counselors?	40	50	3	7
Would you be willing to allow one or more of your employees released time to teach vocational education courses?	47	41	6	6
Would you be willing to use vocational education to retrain your experienced workers?	29	57	7	7
Would you be interested in customized training?	40	43	10	7

The arrangement most difficult for respondents to accept was that of allowing their equipment to be used for on-site training. Fifty-one

percent of the participants indicated that they are not likely to allow their equipment to be used. In the national study, 72 percent of the respondents were not willing to participate in this type of effort. Of interest, however, was the fact that 13 percent of the respondents stated they already had such an arrangement in operation while only 4 percent had such an arrangement in the National Center for Research study. "Released time" was seen as an unlikely cooperative effort by 47 percent of the respondents. However, 6 percent already had such arrangements and the remaining 43 percent considered it a possibility.

In all other components of a cooperative training effort, 50 percent or more of the respondents indicated they would be willing to participate and an additional 4 to 31 percent indicated they already had one or more of the programs in operation.

An overall generalization from the responses would be that the respondents have limited abilities to perform or provide a wide variety of training that would benefit their companies. The training in question would be beyond that already assumed by the vocational school program. Respondents would like to see a majority of this training provided by the vocational programs.

Additional Views Toward Vocational/Occupational Education as Conducted at the Secondary and/or Post-Secondary Level

When asked for additional comments concerning the general importance of vocational education in preparing future workers, respondents' views were divided into the five comments below:

1. General support for desire to see program expanded to include grades below junior and senior year.
2. Collaboration between vocational programs and business should be expanded.

3. Vocational education should update and/or expand programs to include a place for new technology needs.

4. Practical skills and hands-on experience should continue and be expanded.

5. Vocational schools need to be more aware of the industry needs of the area they serve.

SURVEY #2

Perceptions of Vocational Educators
Concerning Vocational-Technical Education
In Missouri, 1984

Framework of the Study

The general framework of this study including its purpose, design, instrumentation, participants and sampling methods along with the procedures for collection and analysis of data have been described in the introduction of this report (pages 17 and 21-24).

The participants in this survey were educators in 54 out of 58 Area Vocational-Technical Schools in Missouri. The numbers in each category were as follows:

Administrators	53
Teachers	675
Guidance Counselors	32
Others (Unclassified)	83
TOTAL	843

Objectives of the Study

The primary purpose of this phase of the study was to solicit the opinions of the administrators and instructors of 58 Area Vocational-Technical Schools in Missouri concerning vocational education. More specifically, the objective of the study was to seek answers to the following questions:

1. What relative priority should be placed on selected major outcome expectations of vocational education?
2. What degree of emphasis should be placed on specific vocational education options?
3. What level of importance should be placed on certain methods of collaboration with business and industry for enhancement of vocational education?

4. What are the main problems that make it difficult for high school or junior college vocational education to work with business and industry?

5. What are the strengths and weaknesses of components of vocational education systems and their need for resource allocation?

6. What level of importance should be placed on a number of specific criteria when deciding whether to continue, discontinue, expand, or reduce a vocational education program?

7. What are the effects of a number of specific factors on promoting or inhibiting the improvement of vocational education programs?

Findings for Survey #2

The responses of the vocational educators to various questions were organized, analyzed, and summarized to correspond to each of the seven specific objectives/questions of the study.

Question #1: What relative priority should be placed on selected major outcomes expectations of vocational education?

The educators were asked to rank the relative importance of the major "outcome expectations" of vocational education. The order of ranking was from 1 (the most important) to 5 (the least important). The results, as reported in Table 21, are summarized as follows:

1. Developing "positive work attitudes and human relation skills" was considered the most important outcome by all groups of the respondents.

2. Developing "vocational and technical knowledge and skills" was considered to be the second most important outcome.

3. Developing "basic academic skills (reading, writing and math)" received the third level ranking.

4. Developing "communication skills" was considered fourth in relative importance.

5. Developing "work experience" was considered to be relatively the least important outcome.

TABLE 21
Ranking of Major Outcomes of Vocational Education
(on a scale of 1 = most important to 5 = least important)

Category of Outcome	Average Ranking by: All (843)*	Instr. (675)	Adminis. (53)	Couns. (32)	Unclas. (83)	Rural Setting (637)	Urban Setting (205)
Work Attitude and Human Rel. Skills	2.03	2.10	1.75	1.37	1.87	2.06	1.96
Vo-Tech Skills	2.58	2.59	2.15	2.69	2.71	2.66	2.30
Basic Skills	2.82	2.74	3.30	3.31	2.92	2.82	2.83
Communication Skills	3.24	3.22	3.52	3.09	3.26	3.22	3.32
Work Experience	3.92	3.83	4.35	4.53	4.18	3.94	3.85

*The numbers in parenthesis represent the number of respondents in each group.

As the responses reported in Table 21 indicate, there was a close similarity in the overall ranking given by various groups of respondents to the different "outcomes" of vocational education. However, it was rather interesting to note that, within each group, there were marked differences of opinions. For example, the relative ranking given to "basic skills" by each group was quite diverse as shown in Table 22.

TABLE 22
Numbers of Respondents Giving Different Priority Ranking to "Basic Skills" as an Outcome of Vocational Education

Level of Relative Importance	Instr. (675)	Adminis. (53)	Couns. (32)	Unclas. (83)
Most Important	184	7	4	17
2nd Most Important	122	6	4	17
3rd Most Important	153	14	8	17
4th Most Important	111	15	10	15
Least Important	103	10	6	16

The divergence of responses within each group of participants in the study is worthy of attention and will be discussed under the "Conclusions and Recommendations" section of this report.

Question #2: What degree of emphasis should be placed on certain specific vocational education options?

The respondents were asked to express their opinions concerning the emphasis which should be placed on eight specific policy options in vocational education. The levels of emphasis were given a value of 3 for high, 2 for average and 1 for low emphasis. The average level of emphasis of different options by various groups of respondents are shown in Table 23.

Based on the average rating given by the respondents to different options, two received fairly high emphasis, two had above average emphasis, three were rated average in emphasis, and one was given a relatively low rating—as follows:

1. Vocational/occupational preparation of youth at the secondary level.
2. Offering training designed to meet employer needs on a local basis.

Options receiving above average emphasis:

3. Adult education (retraining and re-entry skills for adults).
4. Offering training designed to meet employer needs on a statewide basis.

Options receiving average emphasis:

5. Offering training designed to meet student needs.
6. Providing a wide variety of courses rather than specializing in fewer areas of training.
7. Vocational/occupational preparation of youth at post-secondary level only.

Least emphasized option:

8. Specialization in fewer areas of training.

It is of interest to note that there were certain dissimilarities in the views of different groups of respondents, as indicated in Table 23. The differences within each group were rather substantial.

TABLE 23
Average Emphasis Rating of Different Vocational Education Alternatives (on a scale of 3 = high rating, 2 = average, and 1 = low rating)

Alternative	Level of Emphasis Expressed by Respondents					
	All (843)	Instr. (675)	Adminis. (53)	Couns. (32)	Rural (637)	Urban (205)
Vocational/occupational preparation of youth at secondary level	2.70	2.70	2.63	2.81	2.70	2.70
Designing training to meet employers needs on a local basis	2.62	2.61	2.75	2.69	2.61	2.63
Adult education (retraining and re-entry skills for adults)	2.45	2.40	2.77	2.56	2.44	2.48
Designing training to meet employer needs on a statewide basis	2.37	2.38	2.29	2.37	2.41	2.27
Designing training to meet student needs	2.20	2.19	2.27	2.16	2.21	2.14
Providing wide variety of courses	2.09	2.08	2.13	2.23	2.11	2.05
Vocational/occupational preparation of youth at post-secondary level only	2.01	2.00	2.06	2.10	2.01	2.02
Specialization in few areas of training	1.80	1.81	1.84	1.61	1.79	1.84

Question #3: What level of importance should be placed on certain methods of collaboration with business and industry for enhancement of vocational education?

The respondents were asked about the level of importance of 11 well-recognized methods of cooperation between their vocational education programs and business/industry. They were also given the option of naming "other" methods of cooperation. The levels of emphasis were from 5 (very high) to 1 (very low). The average level of emphasis placed different methods of cooperation with business and industry, as expressed by different groups of respondents, are revealed in Table 24.

The following methods of collaboration were favored by a majority of the respondents (were given "high" or "very high" emphasis rating).

1. Providing part-time work experience for vocational education students.

2. Participating in placement and school-to-work transition for vocational education graduates.

3. Providing work experience for vocational education instructors to update their occupational skills.

In the second level of importance (receiving above average to high emphasis) were the following:

4. Participating in program development, curriculum development and revisions and evaluation of training activities.

5. Participating in retraining and upgrading skills of adult workers.

6. Donating equipment and other materials.

7. Entering into training contracts for establishing "customized" training programs (special training programs to meet the specific needs of local business enterprises).

8. Providing financial support to vocational education.

9. Providing work experience for guidance counselors.

The method which received average emphasis was:

10. Providing use of company equipment and machinery for vocational education programs.

Finally, the following practice that received low emphasis was:

11. Using company employees on release time to teach vocational education courses.

It must be noted that the above results were primarily a reflection of the instructors' opinions. This was because the instructors group constituted about 83 percent of the total number of respondents, and thus outnumbered the other groups by a considerable margin. On the whole, the administrators and guidance counselors gave a much higher emphasis to most of the methods of collaboration, compared to instructors, and they also expressed somewhat different priorities. Similarly, the respondents from the schools in urban/metropolitan settings, placed higher emphasis rating on most of the collaboration practices. A marked divergence of opinion was also indicated by the members within each group.

TABLE 24
Emphasis Rating of Different Methods of Collaboration Between Business and Industry and Vocational Education
(on a scale of 5 = very high emphasis to 1 = very low emphasis)

Methods of Collaboration	Scale of Emphasis Expressed by Respondents					
	All (843)	Instr. (675)	Adminis. (53)	Couns. (32)	Rural (637)	Urban (205)
Providing part-time work experience for vocational education students	4.28	4.25	4.19	4.41	4.26	4.34
Participating in placement and school-to-work transition	4.12	4.06	4.40	4.59	4.10	4.17
Providing work experience for updating occupational skills of instructors	4.01	3.97	4.36	4.29	3.98	4.13
Participation in curriculum and program development and evaluation	3.97	3.91	4.17	4.39	3.95	4.03
Participation in retraining of adult workers	3.83	3.78	4.15	4.28	3.84	3.81
Donating equipment and other materials	3.83	3.79	4.10	4.19	3.80	3.91
Developing "customized training programs	3.77	3.69	4.48	4.19	3.70	3.84
Providing financial support to vocational education	3.70	3.69	3.62	3.90	3.67	3.80
Providing work experience for guidance counselors	3.55	3.51	3.58	4.07	3.52	3.64
Providing use of company equipment and machinery	3.45	3.37	3.87	3.74	3.47	3.37
Using company employees on release time for teaching	2.89	2.81	3.69	3.26	2.88	2.92

Question #4: What are the main problems in collaboration between high school or junior college vocational education and business and industry?

The participants were asked to indicate problems that make it difficult for high school or community/junior college vocational educators to work with industry/business. They were provided with a list of eight recognized problems and asked to check as many of them that they thought would apply to their situation. They could also list any additional problems that they might have encountered.

The average number of problems checked by the respondents was less than two.

The majority of the respondents declared that most of the possible problems did not exist in their situation. According to 87 to 93 percent of the respondents, six out of eight listed problems did not seem to be prevalent in their situation. In other words, only 7 to 13 percent had referred to these six problems. Two problems, however, seemed to be shared by a considerable number of the respondents. They were:

1. Lack of job openings for trainees.
2. Inflexible schedules.

The responses of different groups are summarized in Table 25. Although all the groups indicated a small number of problems, the types of problems which were indicated varied considerably from one respondent to another.

TABLE 25
Problems Making it Difficult for Business and Industrial Firms and Schools to Cooperate for Enhancement of Vocational Education

Type of Problem	Percentage of Respondents Encountering Problems					
	All (843)	Instr. (675)	Adminis. (53)	Couns. (32)	Rural (637)	Urban (205)
Lack of job openings	58	57	60	56	62	48
Inflexible schedules	30	28	43	59	28	36
Control problems in supervising training	13	12	21	9	12	15
Inadequate planning	13	12	26	22	12	16
Business not interested in working with schools	11	12	8	—	10	15
Conflicts or disagreements on policies or regulations	8	8	6	3	7	11
Conflicts or disagreements on training objectives	7	7	6	3	6	11
Too costly	7	6	8	9	8	3
Other problems	11	11	19	19	9	19

Question #5: What are the strengths and weaknesses of components of the vocational education system and their need for resource allocation?

The participants were asked to express their views about 25 specific components of the vocational education system. Each component was to be specified under one of the following four categories:

1. Strength now and warrants increased resource allocation.
2. Strength now but should be maintained at the current resource level.
3. Weakness now, should receive increased resources to alleviate weakness.
4. Weakness now, should receive no increase in resources.

The participants had the option of including additional components of the vocational education system if they desired. The responses of all the participants are reported in Table 26.

TABLE 26
Percent of Respondents Considering Various Components of Vocational Education System as Being Strong or Weak Now and Needing Increased Resource Allocation or Not

Components of Vocational Education	Increase Resource Allocation: Strength Now Yes	Strength Now No	Weakness Now Yes	Weakness Now No
Developing technical skills	37.7	48.5	10.9	0.4
Curriculum relevancy and up-to-date dateness	40.6	40.0	16.5	0.7
Instructional Materials	34.6	43.7	19.8	0.2
Staff recruitment	17.6	56.8	20.2	2.1
Staff retention	23.7	50.3	21.1	1.8
Advisory Council support	21.6	49.3	24.4	2.6
Planning and administrative services	17.2	53.4	23.2	3.2
Occupational information	20.6	48.8	26.1	1.8
Equipment	37.8	30.6	29.1	0.7
Developing positive work attitude	35.5	31.6	30.2	0.7
Developing work experience	27.0	39.5	28.2	2.3
Community support	26.3	39.3	29.9	2.3
Preservice training of personnel	19.1	44.8	30.4	2.6
Vocational student organization	21.9	41.5	22.8	7.8
Labor market information	18.5	44.5	31.7	2.8
Student morale and retention	17.7	43.9	33.7	2.5
School-to-work transition	18.0	43.5	32.4	2.4
In-service training of personnel	21.8	39.6	33.3	2.0
Industry participation	25.9	33.5	35.7	2.6
Placement	24.8	34.0	36.9	1.9
Developing communication skills	21.6	33.1	41.6	1.5
Financial resources	26.7	26.1	42.8	1.5
Vocational guidance and career counseling	17.0	35.6	38.4	6.9
Developing academic basic skills	.4	31.6	44.0	1.8
Student recruitment	.0.2	26.4	48.2	3.2

There were striking differences of opinion among different groups of respondents concerning areas of strength and weakness, as well as priorities for increasing resource allocation. There was a marked difference of opinion also among the members of each group. On the whole, the instructors seemed to be far more generous than the administrators and counselors in their assessment of strengths of vocational education.

Although the administrators and counselors had observed a higher proportion of weaknesses in vocational education with the exception of a few individuals, they considered all areas of weakness deserving of increased resource allocation to alleviate shortcomings.

Since the primary objective of this segment of the survey was to identify areas of vocational education which need special attention—from the viewpoint of the instructors, administrators, and the counselors—it would be appropriate to analyze the areas of weakness more than the strengths. Nevertheless, all the components of vocational education, particularly the ones specified in Table 27, deserve further in-depth assessment and attention.

TABLE 27
Components of Vocational Education Which Were Considered to be Somewhat Weak by More Than 20 Percent of the 843 Participants

Component of Vocational Education	Percent Rating the Component as Weak
A. Considered Weak by 20-30 Percent	
1. Instructional materials	20.0
2. Staff recruitment	22.3
3. Staff retention	22.9
4. Planning & administrative services	27.0
5. Advisory Council support	26.4
6. Occupational information	27.0
7. Equipment	29.8
B. Considered Weak by 30-40 Percent	
8. Developing work experience	30.5
9. Developing positive work attitude	30.9
10. Vocational student organization	31.6
11. Community support	32.2
12. Preservice training of personnel	33.0
13. Labor market information	34.5
14. School-to-work transition	34.8
15. In-service training of personnel	35.3
16. Student morale and retention	36.2
17. Industry participation	38.3
18. Placement	38.8
C. Considered Weak by Over 40 Percent	
19. Developing communication skills	43.1
20. Financial resources	44.3
21. Vocational guidance and career counseling	45.3
22. Developing academic basic skills	45.8
23. Student recruitment	51 4

Question #6: What level of importance should be placed on certain recognized criteria when deciding whether to continue, discontinue, expand, or reduce a vocational education program?

The participants were asked to indicate the rating of importance (on a scale of 5, highly important to 1, least important) they would assign to each of the recognized criteria if they were to decide whether to continue,

discontinue, expand, or reduce a vocational education program. They were also given the option of indicating additional criteria. Their responses are reported in Table 28.

TABLE 28
Rating of Importance of Certain Criteria Which Could Be Used to Continue, Discontinue, Expand or Reduce a Vocational Education Program
(on a scale of 5 = highest importance to 1 = least important)

Criteria	Level of Importance Expressed by: All (843)	Instr. (675)	Adminis. (53)	Couns. (32)	Rural (637)	Urban (205)
Placement rate	4.0	4.0	4.1	3.78	3.98	4.1
Advisory Committee recommendation	3.8	3.8	3.78	3.59	3.72	3.96
Local employment need survey	3.8	3.77	3.73	3.81	3.75	3.88
Student enrollment	3.8	3.76	4.06	3.53	3.75	3.83
State employment and occupational forecasts	3.5	3.5	3.3	3.2	3.5	3.5
Cost effectiveness of programs	3.4	3.4	3.6	3.2	3.45	3.4

There was some dissimilarity in the opinions of different groups and the members within each group. However, all the criteria were considered important, and each was given an above average rating. Four of the criteria which were distinctly preferred were as follows:

1. Placement rate
2. Advisory Committee recommendations
3. Local employment need survey
4. Student enrollment preferences

Two other criteria, although considered important, were given a lesser rating of importance compared to the first four. They were:

5. State employment and occupational forecasts

6. Cost effectiveness of the program.

Question #7. What are the effects of a number of specific factors on promoting or inhibiting the improvement of vocational education programs?

The participants were asked to rate the effect of 15 recognized factors on promoting or inhibiting the improvement of vocaional education programs. They had the option of specifying additional factors if they desired. The following scale was used for rating the effect of each factor:

Strongly Promotes	Promotes	No Effect	Inhibits	Strongly Inhibits
(5)	(4)	(3)	(2)	(1)

The opinions, as indicated by the ratings of different groups, are reported in Table 29.

TABLE 29

Ratings of the Effects of Various Factors on Promoting or Inhibiting the Improvement of Vocational Education Programs (on a scale of 5 = "Strongly Promotes," 4 = "Promotes," 3 = "No Effect," 2 = "Inhibits," and 1 = "Strongly Inhibits")

Factors	Average Rating Given By: All (843)	Instr. (675)	Adminis. (53)	Couns. (32)	Rural (637)	Urban (205)
Present levels of teachers' skills	4.4	4.46	4.17	4.2	4.4	4.4
Present level of teachers' attitude (morale)	4.3	4.33	4.02	3.8	4.3	4.1
Present supervision procedures	3.7	3.68	3.7	3.7	3.8	3.4
Present placement procedures	3.7	3.65	3.7	3.6	3.7	3.6
Present student interest	3.6	3.62	3.5	3.8	3.6	3.5
Present planning processes	3.6	3.61	3.47	3.5	3.6	3.4
Present employment and occupational information	3.6	3.58	3.5	3.7	3.6	3.6
Present level of business involvement	3.6	3.55	3.55	3.7	3.6	3.5
Present guidance and counseling	3.4	3.34	3.15	4.1	3.4	3.2
Present labor market information	3.4	3.44	3.2	3.5	3.4	3.4
Present student recruitment procedures	3.3	3.24	3.2	3.9	3.4	3.0
Present image of vocational education	3.3	3.31	3.4	3.0	3.4	3.1
Present funding pattern	3.2	3.22	2.7	2.8	3.2	3.1
Present funding level	3.1	3.16	2.7	2.7	3.2	2.9
Present coordination with other high school programs	3.1	3.06	3.1	3.1	3.2	2.9

There was some similarity between the opinions of different groups with regard to many factors in item 5. On the effect of a few factors, however, there was considerable disparity between the perceptions of different groups. Rather wide divergence of opinion was also evident among the members of each group. From 843 respondents, those who had given a

rating of "No Effect" to various factors ranged between 3 to 31 percent, with an average of 19 percent overall.

It was interesting to observe the opinions of the participants about the overall effect of the present condition of the selected factors on vocational education programs. Their responses, therefore, were tabulated to ascertain the proportion of participants who considered a factor to be a "promoter" or "inhibitor." The results are reported in Table 30. It must be noted, however, that these are the overall perceptions of the 843 participants, 675 of whom were instructors. There was considerable divergence of opinion between different groups as well as among members of each group.

TABLE 30
Percent of Respondents Considering Certain Factors Which Help to Promote or Inhibit Vocational Education Programs*

Factors	Effect	
	Promotes	Inhibits
1. Present level of teacher's skills	92	4
2. Present level of teacher's attitude/ morale	84	8
3. Present supervision procedures	67	10
4. Present placement procedures	65	13
5. Present student interest	64	17
6. Present planning processes	61	12
7. Present employment & occupational information	60	13
8. Present level of business involvement	58	13
9. Present guidance & counseling	55	22
10. Present student recruitment procedures	53	29
11. Present image of vocational education	50	31
12. Present labor market information	50	17
13. Present funding pattern	47	32
14. Present funding level	45	36
15. Present coordinator with other high school programs	41	33

*The "no effect" responses are not included, and account for the totals not adding up to 100.

SURVEY #3

Perceptions of Vocational Students Concerning
Vocational-Technical Education in Missouri, 1984

Framework of the Study

This section summarizes the results of a survey of senior vocational education students in Missouri. The survey was conducted to supplement information provided by a sample of Missouri employers and vocational administrators, vocational instructors, and other professionals employed in Area Vocational-Technical Schools (AVTS) in Missouri.

Objectives of the Study

This study was designed to address the following objectives:

1. To describe graduating students in Missouri's vocational education programs with respect to their geographic location, program area, number of years in the program, age, sex, ethnic origin, and employment status.

2. To identify the way students view the relative importance of selected components of vocational education and to determine the extent to which student opinions are consistent with the views of employers, teachers, and administrators.

3. To describe student perceptions of vocational education evaluation criteria, course content, teaching methods, business/industry cooperation, and resources.

4. To identify students' post-graduation plans.

5. To identify how far students anticipate they will travel to pursue their post-graduation plans.

6. To describe the relationships between selected student characteristics (Objective 1) and student perceptions and plans.

Findings for Survey #3

Question #1: What are the students' characteristics?

Table 31 shows the number of schools classified as rural and urban and the number of student survey forms returned from each school. The total

number of returned survey forms was 2,108--a return rate of 38 percent. This relatively low return rate may have resulted from an overestimate of the number of senior students and/or the timing of the survey distribution which occurred near the end of the school year when many senior students had already graduated and left the vocational schools.

TABLE 31
Participating Urban and Rural Schools

Rural Schools	# of Students	Urban Schools	# of Students
1. Eldon	114	1. Joplin	138
2. Nevada	99	2. St. Joseph	136
3. Chillicothe	109		
4. Kirksville	85		
5. Washington	127		
6. Hannibal	114		
7. Monnett	89		
8. Maryville	76		
9. Pemiscot County	47		
10. New Madrid	147		
11. Marshall	70		
12. Carthage	118		
13. Mexico	171		
14. Cape Girardeau	219		
15. Camdenton	102		
16. Moberly	70		
17. Buffalo	77		
TOTAL	1,834		274

Table 32 shows the distribution of rural and urban students across different vocational programs. The various vocational programs appear to be well represented by rural students. However, the number of urban students was deemed to be too small to make any generalizations in the following programs: agricultural education, business and office education, distributive education, occupational home economics education, and technical education.

TABLE 32
Number of Rural and Urban Students in Different Vocational Programs Completing Survey

Program Area		Rural Students	Urban Students	Total
Unknown		18	1	19
Agriculture		130	0	130
Business & Office		342	16	358
Distributive Ed.		182	6	188
Health Occupations		153	63	216
Occupational Home Ec.		80	19	99
Technical Education		76	10	86
Trade & Industrial Ed.		492	99	591
Other		361	60	421
Total	(#)	1,834	274	2,108
	(%)	87	13	100

The representatives of the urban/rural dichotomy appears adequate in terms of the number of schools in each category. Approximately one-third of the rural and urban AVTSs in Missouri are accounted for in the sample. However, the urban schools in the sample do not include the St. Louis or Kansas City metropolitan areas. In addition, the low number of urban students in several programs listed above will not support generalizations about the urban student responses from those programs. Therefore, the overall adequacy of the rural/urban categorization was deemed questionable and any plans to use rural/urban status as a grouping variable for subsequent analysis were abandoned.

Table 33 shows the number of male and female students in each of the various vocational programs. The overall number of male and female students is relatively equal with approximately 51 percent of the sample composed of males and 41 percent composed of female students. Traditional patterns of enrollment for male and female students remain apparent. Male

students are "underrepresented" in the traditionally female vocational areas of business and office education, health occupations, and occupational home economics. Similarly, female students are "underrepresented" in the traditionally male vocational areas of agricultural education, technical education, and trade and industrial education.

TABLE 33
Male and Female Students In Different Vocational Programs

Vocational Program		Students		
		Unknown	Male	Female
Unknown		3	11	5
Agriculture		8	96	26
Business & Office		15	43	300
Distributive Ed.		18	74	96
Health Occupations		11	11	194
Occupational Home Ec.		9	10	80
Technical Education		11	63	12
Trade & Industrial Ed.		47	495	49
Other		40	271	110
Total	(#)	162	1,074	872
	(%)	7.7	50.9	41.4

The ethnic origin of students in various vocational programs who responded to the survey is reported in Table 34. The vast majority of respondents reported that their ethnic origin was White-Non Hispanic, approximately 82 percent of the total sample. Those students appear to be well represented in all of the vocational programs, while the relatively small number of minority students are differentially distributed across vocational programs. The two minority groups with significant representation in the sample, Blacks and Hispanics, appear to be primarily enrolled in business and office education, health occupations, occupational home economics (Blacks only), and trade and industrial education programs.

TABLE 34
Ethnic Origin of Students in Different Vocational Programs

Voc. Program	Unknown	Am. Ind. AK Nat.	Asian or Pacific Isl.	Blk. Non-Hisp.	Wht. Non-Hisp.	Non-Res. Alien
Unknown	3	0	0	4	0	12	0
Agriculture	14	5	0	0	0	111	0
Bus. & Office	30	7	0	19	0	302	0
Distributive Ed.	20	5	0	7	3	152	1
Health Occup.	15	6	0	22	2	171	0
Occup. Home Ec.	10	3	0	23	0	63	0
Technical Ed.	5	1	0	1	0	79	0
Trade & Indus. Ed.	38	20	2	26	1	503	1
Other	54	15	0	20	1	326	5
Total (#)	189	62	2	122	7	1,719	7
(%)	9.0	2.9	.1	5.8	.3	81.6	.3

The number of years that students have been enrolled in their current vocational program (Table 35) is almost totally accounted for by students with one and two years of vocational education (47.3 and 45.8 percent, respectively). Only agricultural education programs were characterized as having a significant number of students enrolled for three and four years (73.1 percent). Business and office programs and health occupations programs were characterized by having a significantly larger number of students enrolled for one year versus two years. Trade and industrial education programs had more than twice as many students enrolled for two years versus one year. All other vocational programs showed enrollment patterns that were approximately equal between one and two year students.

TABLE 35
Number of Years as Students in Different Vocational Programs

Vocational Program		Number of Years				
		Unknown	1	2	3	4
Unknown		1	4	12	0	2
Agriculture		0	11	24	12	83
Business & Office		1	255	99	3	0
Distributive Ed.		0	99	85	0	4
Health Occupations		0	202	14	0	0
Occupational Home Ec.		0	41	55	2	1
Technical Education		0	18	64	3	1
Trade & Industrial Ed.		1	162	410	14	4
Other		0	205	203	12	1
Total	(#)	3	997	966	46	96
	(%)	.1	47.3	45.8	2.2	4.6

Tables 36, 37, and 38 present information about the employment status of the senior vocational education students included in the sample. Table 36 shows that nearly 50 percent of the vocational students reported that they were employed part-time. Another 10 percent reported that they were either employed full-time (8.2 percent) or self-employed (3.2 percent). The reader should be reminded that data were collected before students left the full-time school. A total of 741 students (35.1 percent) reported that they were not employed. The employment status of students in different vocational programs varied significantly. Only 7.5 percent of the students in distributive education programs reported that they were currently not employed. Students in occupational home economics, health occupations, trade and industrial, and business and office education programs reported the largest percent of students currently unemployed.

TABLE 36
Employment Status of Students in Different Vocational Areas

Voc. Program		Unknown	Employed Full-Time	Employed Part-Time	Self Empl.	Not Empl.	Total in Area
Unknown	(#)	3	1	10	0	5	19
	(%)	15.8	5.3	52.6	0	26.3	
Agriculture	(#)	10	14	60	15	31	130
	(%)	7.7	10.8	46.2	11.5	23.8	
Bus. & Ofce.	(#)	9	13	200	2	134	358
	(%)	2.5	3.6	55.9	.6	37.4	
Dist. Ed.	(#)	9	23	141	1	14	188
	(%)	4.8	12.2	75.0	.5	7.5	
Health Oc.	(#)	5	11	97	8	95	216
	(%)	2.3	5.1	44.9	3.7	44.0	
Oc. Home Ec	(#)	9	12	31	0	47	99
	(%)	9.1	12.1	31.3	0	47.5	
Tech Ed	(#)	8	5	46	5	22	86
	(%)	9.3	5.8	53.5	5.8	25.6	
Trade & Ind	(#)	26	47	266	26	226	591
	(%)	4.4	8.0	45.0	4.4	38.2	
Other	(#)	15	47	182	10	167	421
	(%)	3.6	11.2	43.2	2.4	39.6	
TOTAL	(#)	94	173	1,033	67	741	2,108
	(%)	4.5	8.2	49	3.2	35.1	100

Tables 37 and 38 provide information regarding how the current jobs held by vocational education students are related to their current vocational programs. Table 37 reveals that overall, of the students who were employed full-time, approximately 53 percent reported that their jobs

were "training related" while of the students who were employed part-time, approximately 44 percent reported that their jobs were "training related."

Table 38 provides information about the training related jobs held by students in different vocational programs. There are striking differences in the percent of students in the various programs reporting "training related" jobs. The highest percents were reported by students in distributive, agricultural, and occupational home economics education programs (86.9 percent, 71.4 percent, and 67.3 percent "training related" jobs, respectively). It is also interesting to note that of these three programs, students in distributive and agricultural education programs reported the highest overall levels of employment as well. Programs in which students reported the lowest percent of currently held jobs being "training related" included trade and industrial education (25.2 percent), technical education (29.2 percent), and health occupations education (37.5 percent). With the exception of technical education programs, these programs were typified by relatively high levels of unemployed students.

TABLE 37
Employed Students Reporting That Their Current Jobs Were Training Related

Training Related		Employment Status: Employed Full-Time	Employed Part-time	Self Employed	Total
Current job is training related	(#)	91	452	33	576
	(%)*	52.6	43.8	49.3	45.2
Current job is not training related	(#)	80	573	30	683
	(%)*	46.2	55.5	44.8	53.7
Missing	(#)	2	8	4	14
	(%)*	1.2	.8	6.0	1.1
Total		173	1,033	67	1,273

*(%) refers to percent of all students in an employment status group (column).

TABLE 38
Students in Different Vocational Programs Reporting That Their Current Jobs are Training Related

Vocational Program	Job is Training Related (#)	(%)	Job is Not Training Related (#)	(%)	Total
Missing	6	46.2	7	53.8	13
Agriculture	70	71.4	28	28.6	98
Business & Office	111	49.8	112	50.2	223
Distributive Ed.	152	86.9	23	13.1	175
Health Occupations	45	37.5	75	63.5	120
Occupational Home Ec.	35	67.3	17	32.7	52
Technical Education	19	29.2	46	70.8	65
Trade & Industrial Ed.	94	25.2	279	74.8	373
Other	82	32.3	172	67.7	254
Total	614	44.7	759	55.3	1,373

Appendix C contains additional tables showing information from the student survey. Tables C-II.1, C-II.2 and C-II.3 contain selected demographic characterisitcs and employment status of various sub-groups in the total sample. A few adult students were included in the overall sample (69 students over 21 years of age). In general, females tended to be employed less than males and minority members reported a total of 51 percent unemployed compared to 33.4 percent for non-minority members. This section described the distribution across various possible subgroups and the employment status of vocational education students. The frequency counts and percents reported indicate that the rural/urban status of students in this sample are not representative of the urban students in Missouri; therefore, that grouping variable could not be included in subsequent analyses. Similarly, various minority groups were not well represented in the sample, and analyses based on minority status could not be conducted. Male and female enrollments were not evenly distributed

across vocational areas. There is a very high correlation between the sex of the respondent and program areas in any analysis in which the sex of the respondent is used as a variable. Therefore, only vocational area was used as a major variable in subsequent analyses. In addition, only one program (agricultural education) showed a significant number of three and four year students. The number of years in the current vocational program could not, therefore, be used as a major grouping variable in subsequent analyses.

The description of the sample's distribution across vocational program areas and employment status categories do support using certain factors as grouping variables in subsequent analyses. The remaining sections of the report will address specific topic areas included in the survey instrument from the perspective of the total sample, from the perspective of students in different vocational programs and from the perspective of students grouped according to employment status. Any references to differences based on other variables will contain supporting statistical information in the Appendices.

Question #2: What are the students' rankings of vocational education elements?

Students were asked to rank in order of importance, the areas previously identified: basic skills, work experience, communication skills, work attitude and human relations skills, and vocational and technical knowledge and skills.

Table 39 shows the average ranks by program area, as well as the total. From the students' perspective, vocational-technical skills were number one (average rank was 2.76). An emphasis on basic skills followed with a close second (average rank of 2.81). This latter finding is contrary to the ranking by employers who placed basic skills toward the bottom of their rankings and work attitudes and human relations skills at the top.

TABLE 39
Mean Ranks of Curriculum Topics By Missouri Vocational-Technical School Seniors Grouped by Program Areas

Program Areas	Basic Skills	Work Experience	Communication Skills	Work Attitudes	Vo-Tech Skills
Agriculture	2.84 (1.57)	2.95 (1.47)	3.44 (1.13)	3.12 (1.25)	2.59 (1.49)
Business	2.52 (1.61)	3.56 (1.43)	3.19 (1.30)	2.75 (1.22)	2.95 (1.39)
Distributive	2.75 (1.72)	3.04 (1.44)	2.86 (1.11)	2.65 (1.21)	3.64 (1.29)
Health	3.08 (1.71)	3.05 (1.49)	3.17 (1.16)	2.74 (1.21)	2.93 (1.40)
Home Economics	2.49 (1.63)	2.99 (1.41)	3.35 (1.21)	2.78 (1.19)	3.33 (1.44)
Technical	3.04 (1.65)	2.88 (1.39)	3.79 (1.07)	3.19 (1.12)	2.01 (1.20)
Industrial	2.93 (1.62)	2.84 (1.39)	3.67 (1.20)	3.07 (1.10)	2.40 (1.43)
Other	2.76 (1.63)	2.88 (1.42)	3.57 (1.15)	3.05 (1.21)	2.66 (1.44)
Total	2.81 (1.64)	3.02 (1.45)	3.42 (1.18)	2.93 (1.19)	2.76 (1.45)

Technical skills and basic skills were consistently ranked high across all program areas. They were, however, reversed by students in some program areas. Business and office, home economics, and distributive education were program areas that ranked basic skills as the most important curriculum topic.

Urban and rural students ranked the curriculum topics in a comparable manner. A difference, however; was that students from rural areas gave equal weight to basic skills and vocational-technical skills. Students from urban areas placed greater emphasis on the vocational-technical skills and gave about equal weight to basic skills and work experience.

Employment status could possibly impact on the student response to the importance of curriculum topics. An interesting observation from the data of Table C-III.2 is that those who were employed in some capacity (self-employed, part-time, or full-time employed) rated work experience more important than students who were not employed (2.97 vs. 3.16). Students with an employment history considered vocational-technical skills as more important. The two groups ranked basic skills at a comparable level of importance.

Question #3: What are the students' ratings of components of vocational education?

Twenty-six items were developed to measure student perceptions of vocational programs with respect to course content, teaching methods, resources and evaluation measures. Responses were recorded on a 5 point scale. To facilitate the reporting of student responses, some items have been grouped according to a common vocational program component. In the following discussion, references to differences among subgroups (i.e.,

rural/urban, sex, vocational area) are based on data presented in Appendix C-IV.

The set of items 1, 2, 3, 4, 5, and 26 reflect evaluation components. The highest possible score is 5, with 1 as the lowest. A mean score of 4, for example, indicates a high degree of agreement with the item.

Table C-IV.1 reveals that employment experience was not correlated with the type of response to this set of questions. In general, students were in agreement with this set of questions. However, students disagreed with the statement that success was indicated by acquisition of skills even though those skills would not be used in a job related to their training. Mean scores of 2.83 and 2.75 for the employed groups were computed.

Separate means were calculated to determine whether or not an urban setting or the sex of the student influenced responses. Tables C-IV.2 and C-IV.3 failed to reveal that these factors influenced student response to this set of items. Likewise, student responses did not vary significantly among the program areas. (See Table C-IV.4.)

In summary, a majority of the students indicated that vocational education success should be determined in the market place by job related placements. (See Table 40.) In addition, a quality dimension of such preparation should be determined by employers (over 50 percent of the students either agreed or strongly agreed with item number 5). Over two-thirds of the students indicated that vocational education was a valuable alternative to more traditional curricula (English, Math, etc.) offered at the regular high school (item 26). Note, however, students ranked basics as very important in their overall prioritization of vocational education activities.

Items 10, 13, 16 and 23 were grouped. These tend to address the use of various resources in delivering course content.

TABLE 40
Ratings of Selected Program Characteristics

Statement	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	No Response	Total	Mean	Deviation
1. Vocational Training Success Measured by Job Related Training	737	1,092	196	61	15	7	2,108	4.18	.77
2. Jobs Unrelated to Training Indicate Unsuccessful Training	193	473	360	832	238	12	2,108	2.78	1.18
3. Up-to-Date Equipment	1,187	733	118	52	9	11	2,108	4.45	.75
4. On-Job Training Important	889	915	234	48	7	15	2,108	4.26	.77
5. Employers Should Evaluate Training	220	840	637	335	57	19	2,108	3.40	.97
6. Trainings Reflect Labor Market Needs	463	1,094	395	123	20	13	2,108	3.89	.85
7. Training Equipment are same as Business and Industry	507	1,092	298	155	42	14	2,108	3.89	.92
8. Training Supplies are Adequate	586	1,012	187	228	75	20	2,108	3.86	1.05
9.* Instructor Taught only Technical Skills	164	409	419	760	337	19	2,108	3.33	1.19
10. School Helped Find Job	241	417	655	495	265	35	2,108	2.94	1.19
11. Skilled Instructor	1,121	685	181	62	32	27	2,108	4.34	.87
12. Training Taught Job Requirements	688	1,006	281	92	24	17	2,108	4.07	.86
13. Student Organizations were Useful	438	879	544	138	84	25	2,108	3.70	1.00
14. Sources of Jobs were Taught	353	974	450	272	43	16	2,108	3.63	.98

TABLE 40 (Continued)
Ratings of Selected Program Characteristics

Statement	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	No Response	Total	Mean	Deviation
15. Would Encourage Friends to Enroll in Same Program	723	893	327	98	52	15	2,108	4.02	.96
16. Hands-on Experience was Valuable	872	801	332	77	12	14	2,108	4.17	.86
17. Proper Care of Tools and Equipment Learned	758	1,030	227	65	18	10	2,108	4.16	.80
18. Good Work Habits Learned	840	997	183	51	17	20	2,108	4.24	.78
19. Taught how to find Job	439	872	482	221	70	24	2,108	3.66	1.02
20. Human Relations Skills Taught	674	960	331	102	26	15	2,108	4.03	.89
21. Microcomputers were Available	285	424	428	487	458	26	2,108	2.80	1.35
22. Local Businesses should be more Involved	643	857	476	91	22	19	2,108	3.96	.90
23. Microcomputers will make a Better Employee	270	483	871	286	173	25	2,108	3.19	1.09
24. Prefer Training at Business or Industry Location	174	409	917	451	141	16	2,108	3.01	1.01
25. Teacher should be from Industry	495	694	669	187	49	14	2,108	3.66	1.00
26. Vocational Education-- A Valuable Alternative	611	817	414	159	93	14	2,108	3.81	1.07

*Question 9 was reversed scored; i.e., the lower the score, the more in agreement with the statement.

The highlight of the data presented in Table 40 is that students valued highly the hands-on experience offered in vocational education (mean was 4.02). Any difference in the response of students when grouped according to employment status was not ascertained for any of the items.

A majority of the students indicated that student organizations provided useful experiences (item 13). The mean of the responses was 3.7, but over 500 students had no opinion.

The response to the use of a placement service indicated slight disagreement among students. This may reflect the fact that jobs were acquired in an independent fashion. Note, however, there is considerable variation in the response rating (standard deviation of 1.2) for the employed group (See Table C-IV.1). This particular response, however, must be interpreted with caution in that many schools may not have official placement services available to students.

Similar responses to these items were obtained for rural and urban students and for male and female respondents. An exception was noted for their assessment of the microcomputer. Students from rural areas were in more agreement with item 23 (valued microcomputer more highly). The mean for urban students was 2.87 vs. 3.27 for rural students.)

In addition, female students placed a higher value on the contribution that computers make toward enhancing employability and employee productivity (mean of 3.29 vs. 3.12).

In summary, students indicated that hands-on experience offered by vocational education was invaluable. Likewise, student organizations were considered to be valuable experiences by a majority of the students.

The responses to items 22, 24, and 25 reflect students' responses to statements advocating additional involvement of private business in the educational process. Students in general, favored more involvement, but it should be noted that none of the mean responses exceeded 4. However, a majority of the students indicated that local businesses should be actively involved in vocational training activities (item 22). In like fashion, students wanted their instructors to be up-to-date on job requirements by having recent business/industry experience (item 25). When responses were grouped according to the school location (urban/rural) or the sex of students, there were no significant differences in mean responses. However it is clear that students want industry to be more involved in the educational process to insure their future employability.

Student responses to the availability of equipment (items 7, 8 and 21) indicated that equipment and supplies were sufficient. The mean score of less than 3 for microcomputers (item 21) indicates not all students had sufficient access to microcomputers.

The last group of items (6, 9, 11, 12, 14, 17, 18, 19, 20) are rather heterogenous, but in general reflect teaching attributes and the importance of human relations skills for enhancing employability.

Students were quite complimentary of the instructors. They reported that the skills taught were current and that the instructors were skilled in teaching their subject. Items 18 and 20 had means in excess of 4 for both employment status groups.

Item 9 was reversed scored. A mean score of 3.33 reflects, on the average, that students expressed disagreement with the statement that instructors did not impart to students only technical information in their teaching activities.

In general, differences according to rural/urban or male/female dichotomizations were not evident. One slight exception should be noted. Females tended to value human relations skills more highly than males (4.22 mean for females vs. 3.87 for males on question 20).

Question #4: What are the plans of graduating students?

A key criterion often used to assess the effectiveness of vocational education is the labor market experience of its program graduates. A frequent criticism of secondary vocational education is that students who complete programs often enter further training programs or occupations that are unrelated to their secondary vocational preparation.

Table 41 presents the distribution of responses to a series of statements designed to assess the future plans of graduating students. The directions for responding to the statements asked students to respond based on what they intended to do as soon as they finished their current vocational training. The response options ranged between "Definitely Will" and "Definitely Will Not" with "Not Sure" as the center point.

The first two statements dealt with students' plans to pursue more advanced vocational training. Overall, the responses to these statements indicate that more than 40 percent of the students responding to this survey have at least tentative plans to enroll in training programs offered by junior or community colleges. Only 13.4 percent indicated that they would definitely enroll in further training related to their current vocational program and another 15 percent reported that they probably would. Nearly 40 percent of the sample anticipate they will not pursue additional training related to their current programs.

A majority of the sample (62.3 percent) reported that they did not expect to abandon the vocational preparation they had already completed in favor of training in other occupational areas. Only 4.2 percent of

the students reported that they definitely would pursue unrelated training while an additional 8.5 percent reported that they probably would prepare for other occupations. These data tend to indicate that most students are satisfied with their choice of vocational education at the secondary school level. However, responses to the first statement indicate that a significant proportion either believe that more training is required to secure entry level employment in their area or that entry into higher level positions is desired.

TABLE 41
Anticipated Plans of Graduating
Vocational Education Students

Future Plan		No Response	Definitely Will	Probably Will	Not Sure	Probably Will Not	Definitely Will Not
1. Related Training —JCC	(#)	13	283	316	660	485	351
	(%)	.6	13.4	15.0	31.3	23.0	16.7
2. Unrelated Training—JCC	(#)	28	88	180	499	641	672
	(%)	1.3	4.2	8.5	23.7	30.4	31.9
3. 4-year College Degree	(#)	20	414	255	391	437	591
	(%)	.9	19.6	12.1	18.5	20.7	28.0
4. Training Related Employment	(#)	18	614	697	491	188	100
	(%)	.9	29.1	33.1	23.3	8.9	4.7
5. Unrelated Employment	(#)	26	88	249	665	598	482
	(%)	1.2	4.2	11.8	31.5	28.4	22.9
6. Private Vocational School	(#)	32	57	85	420	613	901
	(%)	1.5	2.7	4.0	19.9	29.1	42.7

Items 3 and 6 also were related to students' future educational plans. The number of vocational graduates who anticipated they will not pursue a 4-year college degree was one and one-half times as large as the number who indicated that they will go on to college (48.7 percent and

31.7 percent, respectively). Two implications are inherent in this finding: that vocational education is an attractive alternative to non-college bound students; and, conversely, that vocational education programs enroll a significant proportion of students who will go on to college.

Item number 6 asked students whether they planned to attend a private vocational school after they graduated. A very small percentage reported they definitely would go to a private vocational school (2.7 percent) while an additional 4 percent reported that they probably would. Over 70 percent of the sample indicated they probably or definitely would not enroll in a private vocational program.

Items number 4 and 5 sought information about students' immediate employment plans. Nearly 80 percent of the sample reported that they probably or definitely would seek employment after graduation. Nearly four times as many students anticipated seeking a job related to their training compared to students reporting they would seek employment in an occupation unrelated to their training (62.2 versus 16.0 percent, respectively). The pattern of "will not" responses support this finding.

These results are generally supportive of vocational education's efforts to prepare students for occupation specific employment. Most students plan to use their training in a related job. This is consistent with students' assessment of potential evaluation criteria for vocational education in which they strongly agreed with related job placement and disagreed with skill acquisition without job placement as indicators of successful completion of training (mean responses of 4.2 and 2.8, respectively).

The response of "Not Sure" was used by students between 20 percent and 30 percent of the time. Students appeared to be most uncertain about

their need to pursue additional training in areas related to their current training (31.3 percent) and the probability of accepting employment for which they have not been trained (31.5 percent). Only 18.5 percent of the students reported that they were unsure about whether or not they would attend a 4-year college and 19.9 percent did not know if they would attend a private vocational school. Approximately equal proportions of the students were not sure whether or not they would seek employment related to their training and whether or not they would pursue additional training in a different occupational area (23.3 and 23.7 percent, respectively). These findings indicate a potential need for a more intensive effort to help students make decisions about their participation in and preparation for the labor market.

Overall, these findings tend to indicate that students believe that they have made good decisions about the vocational areas they have chosen and that they plan to use their training as employees and/or as students in more advanced educational settings. Two factors which might be expected to alter the overall pattern of responses include the specific vocational program in which students were enrolled and the employment status of students.

Table C-V.1 in Appendix C-V reveals the ways in which students in the various vocational programs responded to statements concerning their future plans. In general, the responses from students in the different vocational programs were relatively consistent with the overall results described above. However, several minor differences in the future educational plans of students were observed. Students in distributive education and occupational home economics programs reported that they planned to pursue more advanced training related to their current programs less often than the sample as a whole (16, 26.2, and 28.4 percent,

respectively). Only students in health occupations programs reported that they would pursue related advanced training more often than the total sample (49.5 versus 28.4 percent). Students in occupational home economics programs reported that they would enroll in training programs in new vocational areas more often than the total sample (17.2 versus 12.7 percent).

Plans to pursue a 4-year college degree showed more variation than plans related to additional vocational training. Students in business and office, distributive, and health occupations education programs reported they were more likely to pursue college degrees (43.6, 43.7, and 40.3 percent, respectively) than the total sample (31.7 percent). Students in technical and trade and industrial education programs were less likely to attend a 4-year college than the total sample (24.5 and 22.0 percent, respectively, versus 31.7 percent).

Employment plans of students were also characterized by differences among program areas. Students in agricultural, distributive, and technical education programs reported they were less likely than the combined sample to pursue training related employment (51.5, 44.7, and 55.8 percent, respectively, versus 62.2 percent). In addition, distributive education students reported that they would NOT pursue employment related to their training more often than the total sample (24.5 percent versus 13.6 percent).

The vocational areas with the highest proportion of students anticipating holding jobs related to their training included health occupations education (81 percent) and business and office education (69.2 percent). Students in these programs also reported they would be less likely than the total sample to pursue employment unrelated to their training (8.8 and 10.9 percent, respectively, versus 16.0 percent).

The relationship between employment status and future plans is shown in Appendix C-V, Tables C-V.2 and C-V.3. There were a few slight differences in students' future plans across employment groups. Students employed part-time when they completed the survey were slightly more likely to attend a 4-year college than were students who were employed full-time and students who were unemployed (36.8 versus 27.1 and 27.2 percent, respectively). Students who were unemployed reported that they were more likely to seek employment related to their training after graduating when compared to students who were employed full-time (68.3 versus 51.5 percent).

Table C-V.3 shows the responses of students employed in training-related jobs compared to students employed in jobs not related to their vocational preparation program. The only difference of any significance is that students who were employed outside their field of training when they completed the survey were less likely to pursue employment related to their training after graduation than were students in the total sample (56.2 versus 62.2 percent).

The differences in future plans noted across the different vocational areas suggest that students in vocational programs are, to some degree, aware of and responsive to labor market conditions as they effect employment opportunities in their occupational areas. The slight variation in the future plans of students in different employment categories suggests that work experience in its various forms has only a slight to moderate relationship with students' post-high school labor market expectations.

Question #5: How far will students travel to pursue their future plans?

A recurring issue in vocational education planning and program design is determining the appropriate labor market which should be served. Regional economic conditions coupled with the geographic mobility of graduating students make it difficult to specify which firms and occupations students will pursue when they complete their vocational programs.

Table 42 reveals the distribution of students' responses across vocational program areas to a question asking how far they expected to travel to pursue their future plans, either training or employment, after graduation. Given the participation of sending schools in Missouri AVTS's, the definition of local labor markets included locations within 40 miles of students' current homes.

Variation of student response across vocational program areas does exist in the proportion of students planning to remain in the local area. The highest percent was observed for students in health occupations programs (70.8) and the lowest was observed for technical education students (41.8). The proportion of students who plan to relocate more than 100 miles from their current homes is relatively constant across most vocational programs (between 20 and 25 percent) with the exception of health occupations (12.0 percent) and technical education (34.9 percent). The overall responses from all students show that over one-half (56.5 percent) plan to stay in the local area, and that nearly one-fourth of the students (23.3 percent) plan to work or continue their education at least 100 miles from their current homes.

TABLE 42
Distance Students in Different Vocational Programs Expect to Travel to Pursue Their Future Plans

Vocational Area		Unknown	Distance 0-20 Miles	20-40 Miles	40-60 Miles	60-80 Miles	80-100 Miles	Over 100 Miles
Agriculture	(#)	7	48	26	10	7	6	26
	(%)	5.4	36.9	20.0	7.7	5.4	4.6	20.0
Business & Off.	(#)	8	128	77	35	23	15	72
	(%)	2.2	35.8	21.5	9.8	6.4	4.2	20.1
Distributive Ed	(#)	11	81	15	11	11	10	49
	(%)	5.7	43.1	8.0	5.9	5.9	5.3	26.1
Health Occups.	(#)	5	118	35	20	4	8	26
	(%)	2.3	54.6	16.2	9.3	1.9	3.7	12.0
Home Economics	(#)	6	51	13	6	1	0	22
	(%)	6.1	51.5	13.1	6.1	1.0	0.0	22.2
Technical Educ.	(#)	5	23	13	6	2	7	30
	(%)	5.8	26.7	15.1	7.0	2.3	8.2	34.9
Trade & Indust.	(#)	25	208	112	44	29	16	157
	(%)	4.2	35.2	19.0	7.5	4.9	2.7	26.5
Other Programs	(#)	20	162	76	34	16	11	102
	(%)	4.8	38.4	18.1	8.1	3.8	2.6	24.2
Unknown	(#)	3	5	1	1	1	0	8
	(%)	15.8	26.3	5.3	5.3	5.3	0.0	42.0
TOTAL	(#)	90	824	368	167	94	73	492
	(%)	4.3	39.0	17.5	7.9	4.5	3.5	23.3

Table C-VI.1 in Appendix C-VI reveals how expected distance is associated with responses of "Definitely Will" and "Probably Will" for each of the six future plan statements. Of special note are the relationships observed for statements related to employment plans (numbers 4 and 5) and distance. Nearly 60 percent of the students reporting that they planned to work in a job related to their training planned to do so

within 40 miles of their current home, while 21.1 percent expected to move over 100 miles to work in a training related job. Fifty-six percent of the students who reported they would probably or definitely work in a position unrelated to their training planned to do so within the local labor market while 30 percent anticipated moving over 100 miles.

These findings support the need to consider broad geographic boundaries for labor markets relevant to a given vocational school. Overall, over 40 percent of vocational graduates surveyed in this study plan to work 40 or more miles from their current homes, and of those students, the majority plan to move at least 100 miles. However, some program graduates, notably those from health occupations programs, appear to be pursuing employment almost exclusively in local labor markets.

Question #6: What are the relationships between students' characteristics and students' perceptions and plans?

The variation in responses by students in different demographic groups was addressed in previous sections. The results of the responses to each of the survey items was presented for the total sample and then, when differences were meaningful, the results for subgroups were discussed.

Summary and Discussion of Students' Survey Results

The students who responded to this survey represent a relatively large cross-section of recent vocational education graduates from all program areas. However, urban vocational education students were not well represented, either in number or in geographic distribution. Therefore, the following conclusions can be generalized more readily to rural vocational students, even though no major differences in response patterns were observed for the rural and urban subgroups in this sample.

Students in Missouri's vocational programs agreed that vocational education is an attractive alternative for students not wanting to pursue a college preparatory or general education curriculum. In addition, the vast majority of students reported that they would recommend their vocational education programs to family members and friends (only 7 percent disagreed with that statement). These findings tend to indicate that vocational education programs in Missouri enjoy a good reputation among the students they serve.

The students' rankings of priorities in the vocational curricula are inconsistent with those expressed by educators and employers. Only students in programs focused on service oriented occupational preparation ranked work habits and attitudes as the most important part of their vocational training. Basic academic and vocational-technical skills received high rankings by students in all programs (also by employers and educators). Students also tended to rank the importance of communication skills lower than employers.

The inconsistency between student and educator/employer rankings of the goals of vocational education has major implications for programming in vocational education. It may be that the incongruency between student and instructor goals contributes to the persistent difficulty of

providing effective instruction in the areas of affective and human relations skills. These areas were viewed by educators as current weaknesses in vocational programming even though students reported that those topics and skills were a part of the instruction they received. Goal clarification and establishing expectations for students in affective and human relations skills development early in vocational programs may facilitate consensus-building among students and instructors with respect to the importance of those skills, commitment on the part of students to acquire and develop positive work habits, attitudes, and human relations skills, and, finally, more effective efforts to teach those important components of the vocational curriculum.

Most resources and methods used to deliver vocational education were rated favorably by students. Instructors, equipment and supplies, hands-on experience, and vocational student organizations were all seen as positive contributors to the learning process. On-the-job experience was viewed as very important to successful training, but current employment status made little or no difference in students' responses to any of the topics addressed in the survey.

The availability of microcomputers was the only resource area reported to be inadequate by vocational students. Given the increasing role and importance of microcomputers in many occupations, this finding indicates a potential need to increase the use of microcomputers in vocational education programs.

It does not appear that vocational students would be opposed to increased involvement of business and industry in vocational education. They were uncertain as a group about attending school at an industry location, but they agreed with statements advocating more involvement in general, and more specifically, in providing work experience for

instructors and input into evaluating programs.

The primary criterion for evaluating vocational education, from the students' perspective, was placement in a job related to their vocational preparation. However, students' post-graduation plans were diverse, with significant proportions of students planning to attend college or pursue additional vocational training as well as to find employment. In addition, a significant percent of students in nearly all programs intended to pursue their plans outside the local labor market served by their vocational schools. These factors need to be considered when planning vocational programs and when developing relevant evaluation measures and procedures.

In summary, students rated their vocational education experiences favorably, both in terms of quality and breadth. They are in relative agreement with employers and vocational educators that the ultimate criterion for evaluating vocational education programs is job placement, but tended to disagree with those groups concerning which set of skills is most important in helping achieve that end. Finally, vocational students' plans generally coincide with their belief that job placement is a key outcome of vocational education, though not necessarily in local labor markets or to the exclusion of additional education.

CONCLUSIONS AND RECOMMENDATIONS

The primary concerns which were addressed by the three surveys in this study included: (1) image of vocational education, (2) priorities in vocational education, (3) cooperation between vocational education and employers, and (4) indicators of programming adjustment needed in vocational education.

1. Image of Vocational Education in Missouri

Vocational education, on the basis of high performance of its graduates, is favorably perceived by the business community in Missouri. The responses of educators in the Area Vocational-Technical Schools to questions about strengths, weaknesses, promoters and inhibitors of the system, demonstrate a high standard of professional accountability and pride. A considerable number of them indicate, however, that the image of vocational education is not as they believe it should be, and that this is acting as an "inhibitor" for the development and improvement of vocational education. The vocational education students also seem to have a rather high opinion of their education. In fact, a large majority of them indicated that they would strongly recommend it to their friends.

This favorable image and perception of vocational education by the business community and within the system itself is significant; however, it cannot be taken for granted. A dynamic plan of action is needed to enhance the image of vocational education, particularly for the general public.

2. Priorities in Vocational Education

The business community has high expectations from vocational education for the development of vocational-technical skills and positive work

attitudes. They also expect vocational education to assist students in the development of mature social relations capabilities, communication skills, and basic academic skills needed as young people join the workforce. Vocational education programs and curricula would need to be re-examined and, in some instances, redirected if these expectations are to be accommodated.

Fortunately, there seems to be a remarkable similarity between the opinions of educators and employers with regard to priorities in vocational education. This compatibility of opinions would facilitate any necessary modifications and/or the shifting of relative emphasis in the curriculum. However, the students' opinions indicate a different set of priorities in certain vocational programs. This significant difference of opinion between the students on one hand and the employers and vocational educators on the other requires more careful analysis.

A second set of preferences concerns various options and alternatives in vocational education. Should vocational education programs provide a wide variety of courses, thus serving a wide base of interests with the potential of decreasing the depth of preparation? Or, should it attempt to specialize in fewer areas of training geared to the needs of the economy, with an emphasis on depth rather than breadth of offerings? Should vocational or occupational preparation of youth be provided at the post-secondary level only, or should it be continued at the secondary level? What level of emphasis should be placed on adult occupational education? Should vocational education put more emphasis on training designed to meet employer needs on a local basis or on a statewide basis? There are a number of other similar critical alternatives and options which make decision-making for resource allocation rather difficult.

The responses given by industry, although not absolute, seem to be fairly conclusive regarding their preferences. While emphasizing the occupational preparation of youth, employers do expect vocational education to play a major role in providing retraining and re-entry skills to adult workers. With the rapid changes in technology, the critical need for retraining of adults by vocational education will certainly become more pronounced. This expectation has far reaching implications for all aspects of vocational education, particularly program development, teacher education, and organizational structure.

3. Cooperation Between Vocational Education and the World of Work

The educators and employers in Missouri seem to favor closer cooperation between the two groups for their mutual benefits resulting from the occupational preparation of youth and for upgrading and retraining of adult workers. Both groups seem to consider only one problem (lack of job openings) as a serious barrier. There is also remarkably close agreement between the opinions of the two groups concerning preferred areas of cooperation. The students also expressed their preference and desire for more active participation and cooperation of employers with schools for vocational education. However, considering the small number of firms that already have a working arrangement with vocational schools compared to the vast number of those expressing a willingness to get actively engaged, one may conclude that the immense potential of such cooperation has been barely tapped in Missouri.

4. Indicators of Needed Program Adjustments

The views and perceptions of educators and students toward strengths and weaknesses, promoters and inhibitors, as well as resource allocation preferences for various components of vocational education, provide a

fairly detailed view of the linkage of the world of work and the area vocational-technical schools. Although each of these three sections of the survey report has its own identity and carries its own message, they also have a considerable amount of parallism in terms of the "priorities" for vocational education.

The majority of the educators indicate that, among the outcomes of vocational education, they have been most successful in developing technical skills. However, they have been relatively less successful in the development of academic basic skills and communication skills. Developing positive work attitude and human relations skills seem to be considered somewhat "weak," according to a fairly sizeable percent of the employers and educators. Students, however, did not perceive this area to be weak.

Vocational educators report that whereas staff recruitment and retention is relatively good, the preservice and in-service development of teachers falls considerably short of expectations.

Student recruitment is considered rather weak by the majority of educators; and further, that it is an inhibitor of program development.

Vocational educators report that student guidance, counseling, and placement services and procedures, although favorably perceived, fall considerably short of desirable expectations and need particular attention.

The present funding level and pattern is considered favorable by many of the teachers; however, the great majority of administrators and counselors and fairly sizeable numbers of teachers do not view them as adequate, and they consider them as an inhibitor for development and improvement of vocational education.

On the positive side, vocational educators report that advisory council support, community support, and industry participation is rather strong. Nevertheless, a considerable number seem to want far more participation by business and industry than the current practice.

The teachers' skills and their attitude (morale) are accorded the highest mark for the promotion of vocational education. Administrative services, advisory council support, supervisory procedures, and student interest are also among the factors which are perceived very favorably by a sizeable number of educators.

Educators report that the "present coordination with other high school programs" is of great concern and is viewed by many educators as a serious inhibitor for development and improvement of vocational education.

Another section of the educator's survey which addressed this topic was concerned with the identification of evaluative criteria for expanding or reducing vocational education programs. The most preferred criterion was the "rate of placement." This finding was observed for students as well. However, five other criteria also received "above average" to "high" emphasis.

Finally, the opinions assembled and reported in this section provide a substantial base of information for decision making about vocational education programs. However, the results raise many questions. How objective are the observations by the respondents? What standards have been used by the respondents in considering a component to be a weakness, a strength, a promoter or an inhibitor? What are the connections and interrelationships among these components of strength or weakness? What are the implications of the perceived shortcomings? To use these findings as "indicators of needed adjustments in vocational education," it would be useful to combine them with related information collected from evaluations and assessments of

vocational education including follow-up studies of program gradustes.

Agreements — Disagreements in Opinions

The opinions which were expressed by respondents in the three surveys have been organized and tabulated by each group of participants, namely: (1) the employers, (2) the educators, and (3) the students. During the analysis of these views, however, it was noticed that some subgroups seemed to hold similar opinions while others had considerable disagreement. The same phenomenon was noticed in the opinions expressed by the members within each group.

Although the consensus of opinion between and among different groups would facilitate planning and choosing among alternatives in vocational education, the divergence of opinion should not be a cause for alarm. The differences may be very useful and informative if one determines the basis for the differences in opinion. The differences in the views of employers may be due to the differences in the economic condition of their firms, sizes of firms, socio-geographic base, some other functional reason or simply the personal view of the respondents. The differences between and among the opinions of the teachers, administrators, and the counselors may be (1) a function of their position, (2) the differences in their background of experience in education or the world of work, (3) related to some specific conditions in their school, or (4) their personal attitude. Similarly, the variations in the perceptions of the students could be due to sub-cultural and socio-economic characteristics, or they may be individualistic.

These "pockets" of difference in perceptions need to be traced to the underlying reasons in order to deal with the differences most effectively.

Recommendations

Based upon the survey findings, the following recommendations were offered:

1. Assess current training practices of businesses and industries within a community or geographic area. Determine the implications of these practices for vocational education at the local level.

   To implement: With the assistance of advisory committee members for each vocational program, survey businesses and industries, and utilize the information for necessary program modifications.

2. Assess the hiring practices of the businesses and industries within a community or geographic area. Utilize this information to facilitate the placement of graduates.

   To implement: Seek information from employers. Invite personnel directors to a forum with vocational educators. Identify ways to improve the placement process.

3. Identify firms that have collaborated with the local vocational education program and the form which that collaboration has taken. Seek ways of involving other firms in collaborative efforts with the local vocational education program.

   To implement: Keep in touch with employers and review continually collaborative arrangements. Look for ways to involve an ever increasing number of employers with vocational education at the local level.

4. Incorporate content and activities associated with positive work attitudes and constructive social relations as major components of the vocational education curriculum.

   To implement: Conduct a curriculum study to identify the relevant learning activities which offer an opportunity to develop positive work attitudes and improve social relations. If the study reveals that content and learning activities in these areas are absent or inadequate, take steps to include or enhance these components.

5. Develop a competency-based approach to skill development in vocational education.

   To implement: With the cooperation of business and industry, identify the competencies required of entry level employees in the various program areas. Conduct a curriculum study to determine the extent to which identified competencies are included in the curriculum and take appropriate actions. (This activity is underway at the present time in Missouri through the Vocational Instructional Management System.)

6. Identify and promote the development of basic academic skills,

including communication, that are needed for entry and advancement in the labor market.

To implement: With the cooperation of business and industry, identify the basic academic skills, including communication required of entry level employees in the various program areas. If the study reveals that content and learning activities in these areas are absent or inadequate, take steps to include or enhance these components.

7. Assess the vocational-technical skills and work experiences of graduating students from vocational education programs. Utilize that information for placement purposes.

   To implement: Provide employers with specific information regarding skills (competency profile) and work experiences possessed by program graduates. (This is currently being addressed through the Vocational Instructional Management System (VIMS) and competency-based vocational education.)

8. Emphasize and highlight the function of vocational education which focuses on retraining and reentry skills of adult workers.

   To implement: Develop a plan of action whereby employers and local vocational educators can cooperatively identify need for and nature of retraining activities.

9. Identify employers who historically have not had collaborative efforts with vocational education. Develop a plan of action with each to initiate their involvement with vocational education.

   To implement: Contact employers. Meet employers, one on one, to assess their willingness to become a "partner" with vocational education. Describe the dimensions of the partnership relationship and identify the actions that vocational education can and will take as well as those to be taken by the employer. For example, ask employers to visit the vocational education program and teach a skill most needed in the work place. Hold faculty meetings for the express purpose of initiating a plan of action to improve public relations efforts. Assign areas of responsibilities, actions to be taken and timelines for each activity.

10. Emphasize the enhancement of the IMAGE of vocational education.

    To implement: Design a dynamic statewide plan for the enhancement of the image of vocational education involving mass media, chambers of commerce, State Vocational Advisory Council, State Department of Elementary and Secondary Education, representatives from the world of work, and interested educational and public leaders. Support and encourage Area Vocational-Technical Schools to design and initiate similar plans at the local level involving representative segments of the community.

11. Utilize the wide base of information collected by this study under the subtitle of "Indicators of Needed Program Adjustments," to implement necessary modifications, particularly in the following

areas: (1) coordination of vocational education with other school programs; (2) student recruitment; (3) staff preservice and in-service training; (4) guidance and counseling services, particularly, placement and school-to-work transition; and (5) resource allocation and funding pattern adjustments.

To implement: Commission a joint effort by the State Department of Elementary and Secondary Education, the Area Vocational-Technical Schools, community colleges, and the state vocational teacher education institutions to conduct the necessary follow-up studies leading to the development of appropriate plans of action.

12. Identify the underlying causes for the divergence of opinion between and among various partners in vocational education as evidenced by this study and their implications for adjustments and improvements in vocational education.

To implement: The basic material for this function is already available. The data which have been collected by these three surveys include considerable background information about subcategories in each group. Commission a study to further analyze the data with the objective of tracing the differences of opinion to certain distinguishing and subdividing characteristics of the survey groups.

13. Develop a structure to bring about a growing, effective, and dynamic collaboration between the world of work and the statewide system of vocational education. In the opinion of the study panel, this is by far the most far-reaching and effective measure which may be taken to guarantee substantial improvements in vocational education.

To implement: Establish a Missouri Business Alliance (or Consortium) for Vocational Education. This may appear to some as a replication of existing Vocational Advisory Committees or Councils. It is not. It is an outcome of socio-economic change and growth. In accord with the national imperatives of excellence for vocational education, which are to move from dialogue to action, and from cooperation to collaboration, the time has come to establish such action-oriented (not advisory) entities. Already, a number of states, including California and New York, have established such "alliances" and consortia with very promising outcomes. The results of this study indicate clearly that the immense potentials of industry-school collaboration has been largely untapped in Missouri. To realize the full potential of collaboration between vocational education and the world of work justifies the establishment of a planning and development mechanism exclusively for this purpose. There is too much potential benefit for all parties concerned--students, adult workers, educators, industry, and the public in general--to leave the working relationship between vocational education and employers to chance.

14. Examine information similar to that collected from students, instructors, and administrators in Missouri AVTSs for other vocational education delivery agents, including program deliverers in comprehensive high schools, adult programs, and post-secondary programs. Relevant data concerning program priorities, strengths and

weaknesses, resource priorities, and vocational education outcomes are needed from the other segments of the vocational education delivery system so that an integrated approach to improving the total vocational education system in Missouri will become possible.

In addition, the information from the study and the additional information recommended above should be compared with placement and follow-up data for a sample of all vocational graduates. The lack of such a comparison makes it difficult, if not impossible, to conduct a synthesis of delivery issues and outcome measures.

To implement: It may be necessary to collect equivalent data from other vocational programs in Missouri. The same survey instruments could be sent to a sample of other vocational program directors, instructors, and students and equivalent analyses conducted. .

The effort to synthesize survey information with outcome measures might be accomplished using placement and follow-up data currently collected and maintained by the MDESE. It should be possible to match the different sets of information on important variables such as type of program (AVTS, comprehensive high school, adult, post-secondary), program area, and geographic location. This would help insure that survey information would be compared with the appropriate and relevant outcome measures.

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APPENDIX A

A. Employers' Survey

A-I Respondents Standard Industrial Classification

A-II Cover Letter from A. L. Mallory

A-III Employers' Survey Form

A-IV NAM Survey Form

APPENDIX A-I

RESPONDENTS BY STANDARD INDUSTRIAL CLASSIFICATION

SIC	Industry	Number of Respondents
02	Agriculture Products-Livestock	04
07	Agriculture Service	12
08	Forestry	01
13	Oil and Gas extr.	01
14	Mining of Non Metal	03
15	Building Construction	18
16	Const. not Build.	05
17	Construction-Special	11
20	Food and Kind	07
22	Textile Production	01
23	Apparel and Other	05
24	Lumber and Wood Production	03
25	Furniture and Fixtures	04
27	Printing and Publication and Allied	34
28	Chem. and Allied	15
30	Rubber and Misc.	09
31	Leather	01
32	Stone, clay, glass and concrete	11
33	Pri. Metals	15
34	Fab. Metals	14
35	Machinery	12
36	Elec. and Electronics	27
37	Trans. Equipment	08
38	Meas. and Analysis	02
39	Miscellaneous Man.	29
42	Motor Freight Transportation	01
47	Transportation Services	05
48	Communication	10
49	Electric, Gas and Sanitary Services	08
50	Wholesale-Durable	16
51	Wholesale-Nondurable	04
52	Building Materia, Haron, Garden	36
53	General Merchandise Stores	21
54	Food Stores	36
55	Auto Dealer and Gas Service Station	77
56	Apparel and Accessories	06
57	Furniture, Home and Equipment Stores	15
58	Eating and Drinking Place	33
59	Miscellaneous	89
60	Banking	46
61	Credit Agencies	04
62	Security, Community Brokers	03
63	Insurance	12
64	Insurance Agents, Brokers	05
65	Real Estate	04
66	Comb. R.E., Insurance Loans	07
67	Holding and Investment Services	01
70	Hotel and Lodgings	07
72	Personal Services	06
73	Business Services	19
75	Auto Repair	47
76	Misc. Repair	34
78	Motion Pictures	02
79	Amusement and Recreation	02
80	Health Services	100
81	Legal	05
82	Educational Services	07
83	Social	15
86	Membership Organizations	01
89	Miscellaneous Services	38
90		01
91	Executive, Legislative and General Government	10
92	Justice, Pub. Order and Saf.	03
94	Adm. of Human Resources Pro.	01
96	Adm. of Eco. Pro.	02
97	National Security	03

APPENDIX A-II

MISSOURI STATE BOARD OF EDUCATION

JEFFERSON CITY, MISSOURI 65102

ARTHUR L. MALLORY
COMMISSIONER OF EDUCATION

Dear Missouri Employer:

The 82nd General Assembly has commissioned our Department to conduct a statewide study of vocational education. While we all know the contribution of vocational education to Missourians has been important, it is now even more important for us to know what the future direction of vocational education should be.

You can help us! Your voice can be added to other selected Missouri employers as you reveal to us what you feel the role of vocational education should be in the future. Please give us your thoughts and we will profit as a result. In exchange, our vocational education programs can be more responsive to your needs.

We have decided to use the attached survey instrument to provide most of the information we need. You may be assured that what we see on the survey instrument will be kept in confidence by this office in that we will not identify you with specific responses, either in a report or with local school officials. Also, we feel it is important that personnel from the area vocational schools have an opportunity to discuss vocational education with you. This discussion, along with the attached survey, should give you an opportunity to express your views.

To expedite the collection of this information, I have asked the vocational educators at the area vocational schools across Missouri to personally deliver the instruments and pick them up when they are completed. I hope right now while the survey instrument is at hand you will take a few minutes to complete it, seal it in the envelope, and have it ready for an official from your area vocational school to pick up at a mutually-convenient time for both of you, sometime prior to February 1, 1984.

This is a time when business and education must work more closely together than ever, and it is a time when education needs your help.

Best wishes for a happy and prosperous New Year.

Sincerely yours,

Arthur L. Mallory

Commissioner of Education

APPENDIX A-III

A. BACKGROUND INFORMATION

1. City: _____

2. Title or position of person completing this survey: (Check one closest to your title.)

(1) / / President or CEO
(2) / / V-P Industrial Relations
(3) / / Personnel Manager
(4) / / Human Resource Director
(5) / / Employment and Training Manager
(6) / / Other _____

3. What is the approximate number of employees in your firm during the last 12 months? (Check one.)

(1) / / under 20
(2) / / 20-99
(3) / / 100-249
(4) / / 250-999
(5) / / 1000 plus

4. The major activity of your business establishment (or its SIC code number--Standard Industrial Classification) is: _____

_____

Other significant lines of economic activity of your business establishment are: _____

_____

5. What kinds of initial skill training, if any, does your company provide employees who do not have a 4-year college degree? (Check as many as apply.)

(1) / / Before job-assignment training
(2) / / Formal on-the-job training
(3) / / Lecture series, seminars
(4) / / Off-site training, tuition reimbursement
(5) / / Apprenticeship
(6) / / Organization does not provide initial skill training
(7) / / Other: (please describe) _____

6. Which of the training areas listed above would you like to see performed by the community colleges and/or vocational schools?

_____

_____

Comments: _____

_____

7. What proportion of your training activities can be considered entirely firm-specific? (That is not useful to other firms when the employee moves to other employment outside the company.)

/ / more than 75 percent
/ / 50-75 percent
/ / 25-50 percent
/ / less than 25 percent

B. WAYS YOUR FIRM MAY COOPERATE WITH PUBLIC SECONDARY AND POST-SECONDARY VOCATIONAL EDUCATION TO INCREASE PRODUCTIVITY OF WORKERS

Assume there are no legal constraints with local statutes or union contracts: (Check one per question.)

	Yes, quite likely	Already have such arrangements	No, not likely
8. Would you be willing to participate in upgrading the vocational education programs in your geographic area?	☐	☐	☐
9. Would you be willing to allow your equipment to be used on your premises for vocational education programs?	☐	☐	☐
10. Would you be willing to provide part-time work experience for vocational education students?	☐	☐	☐
11. Would you be willing to provide work experience for vocational education instructors such as a summer job to help them maintain up-to-date skills?	☐	☐	☐
12. Would you be willing to provide work experiences for guidance counselors to increase their awareness of the world of work?	☐	☐	☐
13. Would you be willing to allow one or more of your employees released time to teach vocational education courses?	☐	☐	☐
14. Would you be willing to use vocational education to retrain your experienced workers?	☐	☐	☐
15. Some firms have established "customized" training arrangements with community colleges and/or vocational schools. These are special training programs to meet the specific needs of a business enterprise. Would you be interested in customized training arrangements?	☐	☐	☐

16. Please indicate any problems that you have experienced or that you think make it difficult for business to work with high school or community/junior college vocational education. (Check as many as apply).

(1) ☐ Schools are not interested in working with business
(2) ☐ Conflicts or disagreements on training objectives
(3) ☐ Control problems of supervising their training
(4) ☐ Conflicts or disagreements on policies or regulations
(5) ☐ Inadequate planning
(6) ☐ Inflexible schedules
(7) ☐ Lack of job openings for trainees
(8) ☐ Too costly for my business
(9) ☐ No opinion
(10) ☐ Other problems. Please describe: _____

_____

17. In selecting new hires, do you check their educational background to see if they have had vocational education? ☐ Yes ☐ No

C. WHAT ARE YOUR VIEWS CONCERNING VOCATIONAL EDUCATION?

In preparing youth for work, what PRIORITY would you give to each one of the following aspects of vocational education to enhance employability and productiveness of the graduates?

	Degree of Priority				
	Highest (1)	High (2)	Average (3)	Low (4)	Lowest (5)
18. Vocational technical knowledge and skills	☐	☐	☐	☐	☐
19. Work attitude and human relations skills	☐	☐	☐	☐	☐
20. Communication skills	☐	☐	☐	☐	☐
21. Work experience	☐	☐	☐	☐	☐
22. Academic skills (three R's--reading 'riting and 'rithmetic)	☐	☐	☐	☐	☐

What degree of emphasis would you put on the following vocational education alternatives?

	Degree of Emphasis		
	High	Average	Low
23. Specialization in fewer areas geared to local/regional needs	☐	☐	☐
24. Diversification of curriculum (reverse of specialization)	☐	☐	☐
25. Adult education (retraining and re-entry skills for adults)	☐	☐	☐
26. Vocational/occupational preparation training of youth	☐	☐	☐

	Degree of Emphasis		
	High	Average	Low
27. Upgrading of training through cooperation with the private sector	☐	☐	☐

How do you rate the performance of people in your firm who have had vocational education background compared to those with general education background?

	Rating			
	Better	Equal	Worse	Can't Tell
28. Technical skills	☐	☐	☐	☐
29. Work attitude	☐	☐	☐	☐
30. Work quality	☐	☐	☐	☐
31. Initial training needs	☐	☐	☐	☐
32. Preparedness for work	☐	☐	☐	☐

In hiring new employees for jobs requiring less than 4-year college degree, what priority would you give to the following attributes (all else such as age, sex, etc., being equal.)?

	Level of Priority				
	Highest	High	Average	Low	Lowest
33. Technical vocational skills	☐	☐	☐	☐	☐
34. Work attitude and human relations skills	☐	☐	☐	☐	☐
35. Communications skills	☐	☐	☐	☐	☐
36. Work experience	☐	☐	☐	☐	☐
37. Graduation from formal occupational/vocational training programs	☐	☐	☐	☐	☐
38. Academic skills (three R's)	☐	☐	☐	☐	☐

39. Does your company benefit from vocational education? (Check one.)

(1) ☐ Yes. How? _____
(2) ☐ No
(3) ☐ Not sure

40. Does public vocational education save your organization money in training costs? (Check one.)

(1) ☐ Yes. If possible, estimate how much annually: $_____
(2) ☐ No
(3) ☐ Don't know

41. For a job requiring less than a four-year college degree, would you hire a vocational education graduate rather than a non-vocational graduate (all else being equal: age, sex, training, experience, etc.)? (Check one.)

(1) ☐ Yes
(2) ☐ No. Why not? _____
(3) ☐ Don't know

Further comments on your views about vocational/occupational education as conducted at the secondary and/or post-secondary level.

_____

_____

_____

_____

Thank you very much for your cooperation. Please return this survey in the envelope which is provided.

APPENDIX A-IV

NATIONAL ASSOCIATION OF MANUFACTURERS SURVEY OF MEMBERS' OPINIONS ABOUT VOCATIONAL EDUCATION

INSTRUCTIONS:

Please help us by completing this survey form about public vocational education, which should take about 8-10 minutes of your time. Base your responses on your entire firm if you have only a single facility. Base your responses on the largest plant if you have several facilities. Your responses do not commit you to any future activities. Return the form in the enclosed envelope to the National Association of Manufacturers (NAM) as soon as possible. Identity of responding companies will be known only to NAM.

We appreciate your assistance and time.

A. BACKGROUND INFORMATION

1. City: _____

2. State: (use two-letter state abbreviation) _____

3. Title or position of person completing this survey: (Check one closest to your title.)

(1) ☐ *President or CEO*
(2) ☐ *V-P Industrial Relations*
(3) ☐ *Personnel Manager*
(4) ☐ *Human Resource Director*
(5) ☐ *Employment and Training Manager*
(6) ☐ *Other* _____

4. What is the approximate number of employees in your firm during the last 12 months? (Check one.)

(1) ☐ *under 20*
(2) ☐ *20-99*
(3) ☐ *100-249*
(4) ☐ *250-999*
(5) ☐ *1000 plus*

5. The SIC code number (Standard Industrial Classification) describing the major activity of your business establishment is:

_____

6. Check the category below which best describes where your main plant is located:

(1) ☐ *In open country or farm area.*
(2) ☐ *In a small city or town less than 50,000 persons.*
(3) ☐ *In a medium size city, over 50,000 and less than a half million persons.*
(4) ☐ *In a suburb, near a large city with over a half million persons.*
(5) ☐ *In a large city over a half million persons.*

7. What is your best estimate of the current unemployment rate where your main plant is located?

_____ %

8. Vocational education is commonly defined as a training program (below the 4-year college degree) whose primary purpose is to provide students with specific occupational skills.

About what percentage of your employees at each skill level would you estimate have had vocational education training?

(1) _____ % – *Professional-Administrative*
(2) _____ % – *Clerical-Secretarial*
(3) _____ % – *Sales-Marketing*
(4) _____ % – *Skilled Blue-Collar*
(5) _____ % – *Unskilled Blue-Collar*
(6) _____ % – *Unskilled Entry Blue-Collar*
(7) _____ % – *Service*

9. What kinds of initial skill training, if any, does your company provide employees who do not have a 4-year college degree? (Check as many as apply.)

(1) ☐ *Before job-assignment training*
(2) ☐ *Formal on-the-job training*
(3) ☐ *Lecture series, seminars*
(4) ☐ *Off-site training, tuition reimbursement*
(5) ☐ *Apprenticeship*
(6) ☐ *Organization does not provide initial skill training*
(7) ☐ *Other: (please describe)* _____

B. WHAT IS YOUR OPINION OF VOCATIONAL EDUCATION?

10. Students often are given the grades A, B, C, D, and F (Fail) to denote the quality of their work. Suppose *high school* vocational education in your community were graded in the same way. What grade would you give *high school* vocational education? (Check one.)

(1) ☐ *A*
(2) ☐ *B*
(3) ☐ *C*
(4) ☐ *D*
(5) ☐ *F (Fail)*
(6) ☐ *No opinion*

11. What grade would you award *community or junior college* vocational education? (Check one.)

(1) ☐ *A*
(2) ☐ *B*
(3) ☐ *C*
(4) ☐ *D*
(5) ☐ *F (Fail)*
(6) ☐ *No opinion*

12. If you assigned a grade below A, what are the most important things high school and community or junior college vocational education have to do to improve their grade? (Check three in each column.)

High School	Community or Junior College	
(1) ☐	(11) ☐	*Increase the number of different kinds of vocational programs.*
(2) ☐	(12) ☐	*Update vocational programs.*
(3) ☐	(13) ☐	*Improve opportunities for minorities.*
(4) ☐	(14) ☐	*Insure that individuals who do not go on to college have access to vocational education.*
(5) ☐	(15) ☐	*Provide work experience for vocational students.*
(6) ☐	(16) ☐	*Actively support economic development in the community.*
(7) ☐	(17) ☐	*Improve placement efforts.*
(8) ☐	(18) ☐	*Stress teaching of basics (reading, writing, and arithmetic).*
(9) ☐	(19) ☐	*Involve employers more in vocational programming.*
(10) ☐	(20) ☐	*Increase collaborative retraining efforts.*

(21) *Other suggestions for high school:* _____

_____

(22) *Other suggestions for community or junior college:* _____

_____

13. Does your company benefit from vocational education? (Check one.)

(1) ☐ *Yes. How?* _____
(2) ☐ *No*
(3) ☐ *Not sure*

14. Considering new employees who work in the same types of jobs, how much on-the-job training is required by those with a vocational education background as compared to those without such training? (Check one.)

(1) ☐ *More training*
(2) ☐ *Same amount of training*
(3) ☐ *Less training*
(4) ☐ *Don't know*

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15. Does public vocational education save your organization money in training costs? (Check one.)

(1) *Yes. If possible, estimate how much annually:* $ _____
(2) *No*
(3) *Don't know*

16. For a job requiring less than a four-year college degree, would you hire a vocational education graduate rather than a non-vocational graduate (all else being equal: age, sex, training, experience, etc.)? (Check one.)

(1) *Yes*
(2) *No. Why not?* _____
(3) *Don't know*

BEST COPY AVAILABLE

C. WAYS YOUR FIRM MAY WORK WITH SECONDARY AND POSTSECONDARY VOCATIONAL EDUCATION

Assume there are no legal constraints with local statutes or union contracts: (Check one per question.)

	Yes, quite likely	Already have such arrangements	No, not likely
17. Would you be willing to allow your equipment to be used on your premises for public vocational education training programs?	☐	☐	☐
18. Would you be willing to provide work experience for vocational education students?	☐	☐	☐
19. Would you be willing to provide work experience for vocational education instructors such as a summer job to help them maintain up-to-date skills?	☐	☐	☐
20. Would you be willing to provide work experiences for guidance counselors to increase their awareness of the world of work?	☐	☐	☐
21. Would you be willing to allow one or more of your employees released time to teach vocational education courses?	☐	☐	☐
22. Would you be willing to use vocational education to retrain your experienced workers?	☐	☐	☐

23. Please indicate any problems that you have experienced or that you think make it difficult for business to work with high school or community/junior college vocational education. (Check as many as apply.)

(1) ☐ *Schools are not interested in working with business and industry.*
(2) ☐ *Conflicts or disagreements on goals.*
(3) ☐ *Leadership problems.*
(4) ☐ *Conflicts or disagreements on policies or regulations.*
(5) ☐ *Inadequate planning.*
(6) ☐ *Inflexible schedules.*
(7) ☐ *Quality of training.*
(8) ☐ *No opinion.*
(9) ☐ *Other problems. Please describe:* _____

_____

D. WHAT DO YOU THINK VOCATIONAL EDUCATION SHOULD BE DOING?

24. Two ways in which the educational system prepares high school youth for work are: (1) specific occupational skills training and (2) employability skills training. Specific occupational skills training provides technical and manual skills such as typing and machine shop work. Employability skills training provides help in career decision-making, and skills in seeking/finding/holding jobs (resume writing, interviewing, attendance, punctuality, work attitude, etc.).

Which one of the following do you think would be most effective in preparing youth for work? (Check one.)

(1) ☐ *Teach employability skills in high school.*
(2) ☐ *Teach specific occupational skills in high school.*
(3) ☐ *Teach both employability skills and specific occupational skills in high school.*

25. Several changes are under consideration in vocational education. For each of the following proposed changes, indicate whether you agree, disagree, or are undecided.

	Agree	Disagree	Undecided
(1) *Increase employability skills training at the high school level.*	☐	☐	☐
(2) *Increase vocational education courses in community or junior colleges.*	☐	☐	☐
(3) *Expand use of private sector personnel as resources for vocational education classrooms.*	☐	☐	☐
(4) *Provide public funds for expansion of vocational education programs for females in traditionally male occupations, and vice-versa.*	☐	☐	☐
(5) *Increase public funds for job placement programs as part of vocational education.*	☐	☐	☐
(6) *Insure that adults have access to training for re-entry skills for the job market.*	☐	☐	☐
(7) *Increase employers' involvement in the evaluation of vocational education programs.*	☐	☐	☐
(8) *Expand use of public vocational education funds for training/retraining of employees at the job site.*	☐	☐	☐

Thank you very much for your cooperation. Please return this survey to NAM in the envelope which is provided.

APPENDIX B

B. Educators' Survey

B-I List of Area Vocational-Technical Schools

B-II Cover Letter from Dr. Frank Drake

B-III Educators' Survey Form

APPENDIX B-I

AREA VOCATIONAL-TECHNICAL SCHOOLS

1. North Central Area Vocational-Technical School--Bethany
2. Lead Belt Area Vocational-Technical School--Bonne Terre
3. Boonslick Area Vocational-Technical School--Boonville
4. Brookfield Area Vocational-Technical School--Brookfield
5. Lake Area Vocational-Technical School--Camdenton
6. Cape Girardeau Area Vocational-Technical School--Cape Girardeau
7. Carrollton Area Vocational-Technical School--Carrollton
8. Carthage Area Vocational-Technical School--Carthage
9. Chillicothe Area Vocational-Technical School--Chillicothe
10. Clinton Area Vocational-Technical School--Clinton
11. Columbia Area Career Center--Columbia
12. Current River Area Vocational-Technical School--Doniphan
13. Tri-County Technical School--Eldon
14. Pike and Lincoln Counties Area Vocational School--Eolia
15. Excelsior Springs Area Vocational-Technical School--Excelsior Springs
16. Hannibal Area Vocational-Technical School--Hannibal
17. Cass County Area Vocational School--Harrisonville
18. Jefferson College--Hillsboro
19. Fort Osage Area Vocational-Technical School
20. Arcadia Valley Area Vocational-Technical School--Ironton
21. Nichols Career Center--Jefferson City
22. Franklin Technical School--Joplin
23. Kansas City Technical Education Center--Kansas City
24. Kennett Area Vocational-Technical School--Kennett
25. Kirksville Area Vocational-Technical School--Kirksville
26. Lamar Area Vocational-Technical School--Lamar
27. Laclede Area Vocational-Technical School--Lebanon
28. Lexington La-Ray Area Vocational-Technical School--Lexington
29. Linn Technical College--Linn
30. Dallas County Area Vocational-Technical School--Louisburg
31. Macon Area Vocational-Technical School--Macon
32. Marshall Area Vocational-Technical School--Marshall
33. Northwest Missouri Area Vocational-Technical School--Maryville
34. Mexico Area Vocational-Technical School--Mexico
35. Moberly Area Vocational-Technical School--Moberly
36. Monett Area Vocational-Technical School--Monett
37. Mountain Grove Area Vocational School--Mountain Grove
38. Crowder College--Neosho
39. Nevada Area Vocational-Technical School--Nevada
40. New Madrid Vocational-Technical Skills Center--New Madrid
41. Pemiscot County Area Vocational-Technical School--Pemiscot
42. Perryville Area Vocational-Technical School--Perryville
43. Platte County Area Vocational-Technical School--Platte City
44. Poplar Bluff Area Vocational-Technical School--Poplar Bluff
45. Joe Herndon Area Vocational-Technical School--Raytown
46. Reeds Spring Area Vocational-Technical School--Reeds Spring
47. Rolla Area Vocational-Technical School--Rolla
48. Lewis and Clark Technical School--St. Charles
49. N. S. Hillyard Area Vocational-Technical School--St. Joseph
50. O'Fallon Technical Center--St. Louis

AREA VOCATIONAL-TECHNICAL cont.

51. North, South and West St. Louis County Technical School--St. Louis County
52. State Fair Community College--Sedalia
53. Sikeston Area Vocational School--Sikeston
54. W. J. Graff Vocational-Technical School--Springfield
55. Warrensburg Area Vocational-Technical School--Warrensburg
56. Four Rivers Area Vocational-Technical School--Washington
57. Waynesville Area Vocational-Technical School--Waynesville
58. South Central Area Vocational-Technical School--West Plains

APPENDIX B-II

ARTHUR L. MALLORY
Commissioner

Area Code 314
751-2660

State of Missouri
DEPARTMENT OF ELEMENTARY AND SECONDARY EDUCATION
P.O. BOX 480
JEFFERSON CITY, MISSOURI 65102

April 27, 1984

TO: Area Vocational School Directors

FROM: Frank Drake

SUBJECT: Statewide Study of Vocational Education

Thank you for your efforts to assist in data collection for the Employers Survey. By now you should have received a copy of the Employers Survey Summary Report from Dr. W. R. Miller and Dr. Lynda West, who have been coordinating research efforts for the 1984 Study Committee on Vocational Education.

Enclosed are copies of a second survey. We need your assistance once again. This survey is directed to you, the directors, all vocational instructors and a sample of senior vocational students. An instruction sheet is enclosed for your convenience.

We understand that with the end of the school year approaching, this is not an opportune time to answer questionnaires. We hope, however, that the benefits which would accrue from the study would justify your valuable cooperation.

We hope that we can count on your quick response. I appreciate your attention to this matter.

Enclosure

APPENDIX B-III

STATEWIDE STUDY OF VOCATIONAL EDUCATION

A. BACKGROUND INFORMATION

1. City_____ 2. School Name _____

3. Title or position of person completing this survey: (Check one closest to your title.)

(1) ☐ Administrator (3) ☐ secondary ☐ post secondary ☐ both
(2) ☐ Instructor (4) ☐ Other_____

4. In what area of vocational education are you employed (major, specialization)?

(1) ☐ Agriculture (6) ☐ Technical Education
(2) ☐ Business and Office Occupations (7) ☐ Trade & Industrial Occupations
(8) ☐ Administration
(3) ☐ Distributive Education (9) ☐ Guidance and Counseling
(4) ☐ Health Occupations (10) ☐ Other (please specify) _____
(5) ☐ Occupational Home Economics _____

5. How many years have you been employed professionally in vocational education? _____

6. Other than school related, how many years of practical experience have you had in your vocational field of specialization? _____

B. VIEWS CONCERNING COOPERATION BETWEEN SCHOOLS AND BUSINESS/INDUSTRY

7. What is the present level of cooperation between your vocational education programs and business/industry?

☐ Very High ☐ High ☐ Average ☐ Low ☐ Very Low or None

8. Please indicate any problems that make it difficult for high school or community/junior college vocational education to work with business. (Check as many as apply.)

(1) ☐ Businesses are not interested in working with schools
(2) ☐ Conflicts or disagreements on training objectives
(3) ☐ Control problems in supervising training
(4) ☐ Conflicts or disagreements on policies or regulations
(5) ☐ Inadequate planning
(6) ☐ Inflexible schedules
(7) ☐ Lack of job openings for trainees
(8) ☐ Too costly
(9) ☐ Other problems (please describe) _____

9. What level of importance should be placed on each of the following methods of cooperation between your vocational education program and business/industry? (Assume there are no legal constraints with local statutes or union contracts.)

	Level of Importance				
	Very High	High	Average	Low	Very Low
(1) Providing use of company equipment and machinery for vocational education programs.	___	___	___	___	___
(2) Using company employees on released time to teach vocational education courses.	___	___	___	___	___
(3) Providing part-time work experience for vocational education students.	___	___	___	___	___
(4) Providing work experience for vocational education instructors to update their occupational skills.	___	___	___	___	___

		Level of Importance				
		Very High	High	Average	Low	Very Low
(5)	Providing work experience for guidance counselors.	___	___	___	___	___
(6)	Participating in program development, curriculum revisions and evaluation of training activities.	___	___	___	___	___
(7)	Participating in retraining and upgrading skills of adult workers.	___	___	___	___	___
(8)	Participating in placement and school-to-work transition for vocational education graduates.	___	___	___	___	___
(9)	Providing financial support to vocational education.	___	___	___	___	___
(10)	Donating equipment and other materials.	___	___	___	___	___
(11)	Entering into training contracts for establishing "customized" training programs (special training programs to meet the specific needs of local business enterprises).	___	___	___	___	___
(12)	Others (please specify) _____	___	___	___	___	___

C. VIEWS CONCERNING PRIORITIES IN VOCATIONAL EDUCATION

Some elements of vocational education are considered RELATIVELY more important than others. Please rank the following elements of vocational education in order from 1 (the most important) to 5 (the least important). Each element must have a different rank.

10. _____ Academic skills (three R's: reading, 'riting, and 'rithmetic)
11. _____ Work experience
12. _____ Communication skills
13. _____ Work attitude and human relations skills
14. _____ Vocational and technical knowledge and skills

What degree of emphasis would you put on the following vocational education alternatives?

		Degree of Emphasis		
		High	Average	Low
15.	Specialization in fewer areas of training.	___	___	___
16.	Providing a wide variety of courses rather than specializing in fewer areas of training.	___	___	___
17.	Adult education (retraining and re-entry skills for adults).	___	___	___
18.	Vocational/occupational preparation of youth at secondary level.	___	___	___
19.	Vocational/occupational preparation of youth at post-secondary level only.	___	___	___
20.	Offering training designed to meet employer needs on a local basis.	___	___	___
21.	Offering training designed to meet employer needs on a state-wide basis.	___	___	___
22.	Offering training designed to meet student interests.	___	___	___

D. VIEWS CONCERNING IMPROVING VOCATIONAL EDUCATION

23. How do you rate the STRENGTH and WEAKNESS of each of the following components of vocational education (in general) and their need for resource allocation? Place only one check mark for each component.

Strength Now and Warrants Increased Resources (4)	Strength Now But Should Be Maintained At Current Resource (3)	Weakness Now, Should Receive Increased Resources To Become Strong (2)	Weakness Now, Should Receive No Increase in Resources (1)

Components:	(4)	(3)	(2)	(1)
1. Curriculum relevancy and up-to-dateness	___	___	___	___
2. Developing technical skills	___	___	___	___
3. Developing positive work attitude	___	___	___	___
4. Developing academic basic skills	___	___	___	___
5. Developing communication skills	___	___	___	___
6. Developing work experience	___	___	___	___
7. Vocational guidance and career counseling	___	___	___	___
8. Equipment	___	___	___	___
9. Instructional materials	___	___	___	___
10. Student recruitment	___	___	___	___
11. Student morale and retention	___	___	___	___
12. School-to-work transition	___	___	___	___
13. Placement	___	___	___	___
14. Staff recruitment	___	___	___	___
15. Staff retention, policies and procedures	___	___	___	___
16. Preservice training of personnel	___	___	___	___
17. In-service training of personnel	___	___	___	___
18. Planning and administrative service	___	___	___	___
19. Financial resources	___	___	___	___
20. Occupational information	___	___	___	___
21. Labor market information	___	___	___	___
22. Advisory councils support	___	___	___	___
23. Community support	___	___	___	___
24. Industry participation	___	___	___	___
25. Vocational student organizations	___	___	___	___
26. Others (please specify) _____				
_____	___	___	___	___

24. Rate the importance of the following criteria which could be used to continue, discontinue, expand, or reduce a vocational education program.

	Level of Importance				
	Very High	High	Average	Low	Very Low
1. Placement rate	___	___	___	___	___
2. State employment and occupational forecasts	___	___	___	___	___
3. Local employment needs survey	___	___	___	___	___
4. Cost effectiveness of programs	___	___	___	___	___
5. Student enrollment	___	___	___	___	___
6. Advisory Committee recommendations	___	___	___	___	___
7. Others (please specify) _____	___	___	___	___	___

25. Rate the effect of the following factors on promoting or inhibiting the improvement of vocational education programs.

Strongly Promotes (5) Promotes (4) No Effect (3) Inhibits (2) Strongly Inhibits (1)

	(5)	(4)	(3)	(2)	(1)
1. Present level of teacher's skills	___	___	___	___	___
2. Present level of teacher's attitudes (morale)	___	___	___	___	___
3. Present placement procedures	___	___	___	___	___
4. Present guidance and counseling	___	___	___	___	___
5. Present level of business involvement	___	___	___	___	___
6. Present funding pattern	___	___	___	___	___
7. Present funding level	___	___	___	___	___
8. Present planning processes	___	___	___	___	___
9. Present supervision procedure	___	___	___	___	___
10. Present student recruitment procedures	___	___	___	___	___
11. Present student interest	___	___	___	___	___
12. Present labor market information	___	___	___	___	___
13. Present employment and occupational information	___	___	___	___	___
14. Present coordination with other high school programs	___	___	___	___	___
15. Present image of vocational education	___	___	___	___	___
16. Others (please specify) _____					
_____	___	___	___	___	___
_____					

APPENDIX C

C. Students' Survey

C-I Students' Survey Form

C-II.1 Employment Status of Minority and Non-Minority Vocational Students

C-II.2 Employment Status of Male and Female Vocational Education Students

C-II.3 Age and Employment Status of Vocational Education Students

C-III.1 Means and Descriptive Statistics for Ranked Importance of Voc Ed Curriculum Areas for Urban and Rural Students

C-III.2 Means and Descriptive Statistics for Ranked Importance of Voc Ed Curriculum Areas for Students with Different Employment Statuses

C-IV.1 Average Ratings of Statements About Vocational Education Programs by Employment Status

C-IV.2 Average Ratings of Statements About Vocational Educatiin Programs by Rural/Urban School Location

C-IV.3 Average Ratings of Statements About Vocational Education Programs by Sex

C-IV.4 Average Ratings of Statements About Vocational Education Programs by Vocational Area

C-V.1 Future Plans of Students Enrolled in Different Vocational Programs

C-V.2 Future Plans of Students by Employment Status

C-V.3 Future Plans of Students with Jobs Related or Unrelated to Current Training

C-VI Expected Distance to Post-Graduation Training Site or Employment Location

APPENDIX C-I

STUDENT SURVEY

DIRECTIONS--Please answer the following questions as honestly as you can. Choose the option that is closest to your opinion. If none of the options is close to your opinion or if it does not seem to apply, you may leave that item blank. Thank you for your help.

BACKGROUND INFORMATION

1. In what town or city do you live? _____

2. What is the name of your vocational school? _____

3. Look at the list of vocational programs listed below. Put a check mark beside the vocational program you are currently studying.

(1) _____ Agriculture
(2) _____ Business & Office Occupations
(3) _____ Distributive Education
(4) _____ Health Occupations
(5) _____ Occupational Home Economics
(6) _____ Technical Education
(7) _____ Trade and Industrial Occupations
(8) _____ Other (please list) _____

4. How many years have you been a student in your CURRENT vocational program (including this year)?

_____ 1 _____ 2 _____ 3 _____ 4 _____ more than 4

5. How old are you? _____

6. Are you a _____ male? _____ female?

7. What is your ethnic origin? (Answer only if you want to do so.)

_____ American Indian/Alaskan Native
_____ Asian or Pacific Islander
_____ Black Non-Hispanic
_____ Hispanic
_____ White Non-Hispanic
_____ Non-resident Alien

8. Are you currently employed?

_____ Employed full-time
_____ Employed part-time
_____ Self employed
_____ Not employed

9. If you are employed, is your current job

_____ related to your current vocational education program?
_____ NOT related to your current vocational education program?

RATE YOUR TRAINING--Below is a list of topics or areas that vocational education programs teach. Please RANK those topics in order of importance with 1 being the most important and 5 the least important. Each topic must have a different number.

_____ basic skills (reading, writing, and math)
_____ work experience
_____ communication skills
_____ work attitudes and human relations skills
_____ vocational and technical knowledge and skills

Please indicate the extent to which you agree with the following statements by circling the number that is closest to your opinion.

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1. The best outcome for students in vocational education is to find a job related to their training.	1	2	3	4	5
2. Students who learn the skills and knowledge presented in vocational programs are not successful if they do not use those skills in a job.	1	2	3	4	5
3. A vocational education program must have up-to-date equipment.	1	2	3	4	5
4. Vocational education programs need to provide students with actual job experience.	1	2	3	4	5
5. Local employers should decide whether or not vocational education graduates are well trained.	1	2	3	4	5
6. The subjects I studied in my vocational program reflect current job requirements.	1	2	3	4	5
7. The tools and equipment used in my vocational program are the same as those used in business and industry.	1	2	3	4	5
8. There were enough supplies and materials available to me in my vocational program.	1	2	3	4	5
9. My instructor taught ONLY technical skills and knowledge.	1	2	3	4	5
10. A person who works with the vocational programs at my school helped me to find a job during my training.	1	2	3	4	5
11. My instructor was very skilled in the subjects he or she taught.	1	2	3	4	5
12. My vocational program taught me what to expect on the job in my area of training.	1	2	3	4	5
13. The vocational student organization associated with my vocational program provided me with useful experiences.	1	2	3	4	5

	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
14. Part of my vocational studies included information about job openings in my field of study.	1	2	3	4	5
15. I would encourage my friends or other family members to take the vocational education program in which I am currently enrolled.	1	2	3	4	5
16. Hands-on experience in the shop or laboratory helped me learn more than any other part of the vocational program.	1	2	3	4	5
17. I learned proper care of the tools and equipment associated with my vocational field of study as part of my vocational program.	1	2	3	4	5
18. Learning about good work habits was an important part of my vocational training.	1	2	3	4	5
19. Part of my vocational program taught me how to find a job.	1	2	3	4	5
20. Learning how to get along with coworkers and supervisors on the job was an important component of my vocational program.	1	2	3	4	5
21. Microcomputers were available as a part of my vocational program.	1	2	3	4	5
22. People from the local business community should be more involved in my vocational training (for example, by talking to the class, helping the teacher, etc.).	1	2	3	4	5
23. Using microcomputers in my vocational program will make me a better employee.	1	2	3	4	5
24. I would like to attend vocational education classes at a business or industry location rather than at the vocational school.	1	2	3	4	5
25. I would like my vocational teacher to be someone who also works in a business or industry job that is related to my area of study.	1	2	3	4	5
26. Vocational education training programs are a valuable alternative for students who do not want to study English, math, and other subjects at the regular high school.	1	2	3	4	5

YOUR FUTURE PLANS--Think about what you plan to do as soon as you finish your CURRENT vocational training. Please tell us the extent to which the following statements match your plans by circling the appropriate number.

	Definitely Will	Probably Will	Not Sure	Probably Will Not	Definitely Will Not
1. I will attend more advanced vocational training RELATED to my current vocational program at a junior or community college.	1	2	3	4	5
2. I will attend a vocational program NOT RELATED to my current vocational program.	1	2	3	4	5
3. I will enroll in a 4-year college and pursue a college degree.	1	2	3	4	5
4. I will seek a job which will require me to use the vocational training I am currently receiving.	1	2	3	4	5
5. I will seek a job which does NOT require me to use the vocational training I am currently receiving.	1	2	3	4	5
6. I will attend a private vocational school.	1	2	3	4	5

Please complete the following statement based on your future plans.

7. My future plans will require me to travel to work or to attend school in a place that is

_____ less than 20 miles from my current home.
_____ between 20 and 40 miles from my current home.
_____ between 40 and 60 miles from my current home.
_____ between 60 and 80 miles from my current home.
_____ between 80 and 100 miles from my current home.
_____ 100 miles or more from my current home.

APPENDIX C-II.1

TABLE C-II.1
Employment Status of Minority and Non-Minority Vocational Students

Minority Status		Employment Status					
		Unknown	Employed Full Time	Employed Part Time	Self Employed	Not Employed	Total
Unknown	(#)	11	20	90	3	65	189
	(%)	5.8	10.6	47.6	1.6	34.4	100
Minority	(#)	24	14	56	4	102	200
	(%)	12.0	7.0	28.0	2.0	51.0	100
Non-Minority	(#)	59	139	887	60	574	1,719
	(%)	3.4	8.1	51.6	3.5	33.4	100
Total	(#)	94	173	1,033	67	741	2,108
	(%)	4.5	8.2	49.0	3.2	35.1	100

APPENDIX C-II.2

TABLE C-II.2
Employment Status of Male and Female Vocational Education Students

Student Sex	Employment Status					
	Unknown	Employed Full Time	Employed Part Time	Self Employed	Not Employed	Total
Unknown	23	21	58	5	55	162
Male	46	101	544	52	331	1,074*
Female	25	51	431	10	355	872*
Total	94	173	1,033	67	741	2,108

*30.82% Males Unemployed; 40.7% Females Unemployed.

APPENDIX C-II.3

TABLE C-II.3
Age and Employment Status of Vocational Education Students

Age Group	Employment Status					
	Unknown	Employed Full Time	Employed Part Time	Self Employed	Not Employed	Total
Unknown	3	1	6	0	13	23
15 to 16	2	1	7	2	11	23
17 to 18	72	143	951	54	618	1,838
19 to 21	17	18	54	5	61	155
22 to 25	0	3	4	1	6	14
26 to 30	0	3	5	0	12	20
31 to 40	0	0	3	3	14	20
41 to 50	0	2	1	2	6	11
Over 50	0	2	2	0	0	4
Total	94	173	1,033	67	741	2,108

APPENDIX C-III.1

MEANS AND DESCRIPTIVE STATISTICS FOR RANKED IMPORTANCE
OF VOC ED CURRICULUM AREAS
FOR URBAN AND RURAL STUDENTS

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- URBAN STATUS OF SCHOOL=RURAL SCHOOL ----------					
X39	BASIC SKILLS	1690	2.78639053	1.64848945	0.04009986
X40	WORK EXPERIENCE	1700	3.04117647	1.44409611	0.03502448
X41	COMMUNICATION SKILLS	1686	3.41281139	1.18764242	0.02892390
X42	WORK ATTITUDES & HR SKILLS	1689	2.92421551	1.19544445	0.02908805
X43	VOC-TECH SKILLS	1712	2.78154206	1.46342447	0.03536865
---------- URBAN STATUS OF SCHOOL=URBAN SCHOOL ----------					
X39	BASIC SKILLS	248	2.94354839	1.64601061	0.10452178
X40	WORK EXPERIENCE	249	2.94377510	1.47726432	0.09361782
X41	COMMUNICATION SKILLS	248	3.48387097	1.17313981	0.07449445
X42	WORK ATTITUDES & HR SKILLS	248	2.97983871	1.17824269	0.07481849
X43	VOC-TECH SKILLS	252	2.58333333	1.41597319	0.08919793

MEANS AND DESCRIPTIVE STATISTICS FOR RANKED IMPORTANCE
OF VOC ED CURRICULUM AREAS
FOR STUDENTS WITH DIFFERENT EMPLOYMENT STATUSES

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
----------	---------- 1 = EMPLOYED/0 = UNEMPLOYED=MISSING ----------				
X39	BASIC SKILLS	74	2.74324324	1.62228328	0.18858660
X40	WORK EXPERIENCE	76	2.81578947	1.46706534	0.16828394
X41	COMMUNICATION SKILLS	72	3.51388889	1.27812644	0.15062865
X42	WORK ATTITUDES & HR SKILLS	73	2.97260274	1.20153377	0.14062839
X43	VOC-TECH SKILLS	75	2.72000000	1.42904239	0.16501160
----------	---------- 1 = EMPLOYED/0 = UNEMPLOYED=NOT EMPLOYED ----------				
X39	BASIC SKILLS	692	2.79768786	1.67023673	0.06349287
X40	WORK EXPERIENCE	693	3.15584416	1.49041680	0.05661625
X41	COMMUNICATION SKILLS	690	3.41014493	1.15862951	0.04410827
X42	WORK ATTITUDES & HR SKILLS	690	2.94347826	1.16603832	0.04439032
X43	VOC-TECH SKILLS	702	2.64387464	1.40762579	0.05312741
----------	---------- 1 = EMPLOYED/0 = UNEMPLOYED=EMPLOYED ----------				
X39	BASIC SKILLS	1172	2.81569966	1.63861159	0.04786436
X40	WORK EXPERIENCE	1180	2.96779661	1.41744142	0.04126332
X41	COMMUNICATION SKILLS	1172	3.42320819	1.19638251	0.03494671
X42	WORK ATTITUDES & HR SKILLS	1174	2.92163543	1.20908414	0.03528763
X43	VOC-TECH SKILLS	1187	2.82476832	1.48674634	0.04315305

APPENDIX C-IV.1

MEANS FOR ITEMS ASSESSING POTENTIAL CRITERIA AND TOTAL SCORE
FOR STUDENTS WITH DIFFERENT EMPLOYMENT STATUSES
TOTAL SCORE (CRITERIA) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- 1 = EMPLOYED/0 = UNEMPLOYED=MISSING ----------					
RATE1	JOB PLACEMENT	94	4.13829787	0.89923580	0.09274909
RATE2	SKILL ACQUISITION	93	2.93548387	1.23188131	0.12774014
RATE3	UP-TO-DATE EQUIPMT	94	4.21276596	0.93753670	0.09669953
RATE4	ACTUAL JOB EXPERIENCE	93	4.18279570	0.75103170	0.07787836
RATE5	EMPLOYER EVALUATION	94	3.34042553	1.08313753	0.11171711
RATE26	VOC ED AS ALTERNATIVE	94	3.77659574	0.99627538	0.10275796
CRITERIA	ITEMS 1-5,26	94	22.57446809	3.35526985	0.34606966
---------- 1 = EMPLOYED/0 = UNEMPLOYED=NOT EMPLOYED ----------					
RATE1	JOB PLACEMENT	737	4.23202171	0.76375457	0.02813326
RATE2	SKILL ACQUISITION	736	2.83152174	1.21616588	0.04482847
RATE3	UP-TO-DATE EQUIPMT	739	4.46684709	0.71561916	0.02632448
RATE4	ACTUAL JOB EXPERIENCE	736	4.29755435	0.76116237	0.02805682
RATE5	EMPLOYER EVALUATION	732	3.38934426	0.99797119	0.03688608
RATE26	VOC ED AS ALTERNATIVE	736	3.82608696	1.06121425	0.03911688
CRITERIA	ITEMS 1-5,26	741	23.01484480	2.86423347	0.10522025
---------- 1 = EMPLOYED/0 = UNEMPLOYED=EMPLOYED ----------					
RATE1	JOB PLACEMENT	1270	4.14960630	0.76238128	0.02139293
RATE2	SKILL ACQUISITION	1267	2.74822415	1.15903059	0.03256166
RATE3	UP-TO-DATE EQUIPMT	1264	4.45174051	0.74927052	0.02107488
RATE4	ACTUAL JOB EXPERIENCE	1264	4.23892405	0.77564110	0.02181561
RATE5	EMPLOYER EVALUATION	1263	3.40696754	0.93988007	0.02644666
RATE26	VOC ED AS ALTERNATIVE	1264	3.80142405	1.09021322	0.03066464
CRITERIA	ITEMS 1-5,26	1273	22.76747840	2.86476831	0.08029256

MEANS FOR ITEMS ASSESSING INSTRUCTION QUALITY AND TOTAL SCORE
FOR STUDENTS WITH DIFFERENT EMPLOYMENT STATUSES
TOTAL SCORE (INSTRUCT) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- 1 = EMPLOYED/0 = UNEMPLOYED=MISSING ----------					
RATE6	MATCH WITH JOB REQUIREMTS	94	3.74468085	1.01532526	0.10472280
RATE9	ONLY TECHNICAL SKILLS	93	2.96774194	1.16517971	0.12082351
RATE11	INSTRUCTOR SKILLS	92	4.15217391	1.00476647	0.10475415
RATE12	JOB EXPECTATIONS	92	4.06521739	0.89938132	0.09376698
RATE14	JOB OPENING INFO	94	3.55319149	0.95733750	0.09874182
RATE17	CARE OF TOOLS & EQUIP	94	3.92553191	0.97538922	0.10060372
RATE18	WORK HABITS	92	4.09782609	0.74213506	0.07737293
RATE19	JOB FINDING SKILLS	94	3.60638298	1.01830647	0.10503029
RATE20	HR SKILLS	93	3.87096774	1.00245141	0.10394937
INSTRUCT	ITEMS 6,9,11,12,14,17-20	94	26.22340426	3.75357680	0.38715189
---------- 1 = EMPLOYED/0 = UNEMPLOYED=NOT EMPLOYED ----------					
RATE6	MATCH WITH JOB REQUIREMTS	736	3.94701087	0.83701236	0.03085268
RATE9	ONLY TECHNICAL SKILLS	732	3.28825137	1.23013849	0.04546723
RATE11	INSTRUCTOR SKILLS	733	4.41473397	0.85244816	0.03148539
RATE12	JOB EXPECTATIONS	735	4.13333333	0.85528756	0.03154776
RATE14	JOB OPENING INFO	735	3.60816327	1.02233306	0.03770932
RATE17	CARE OF TOOLS & EQUIP	737	4.26051560	0.76611403	0.02822617
RATE18	WORK HABITS	733	4.27285130	0.77656043	0.02868291
RATE19	JOB FINDING SKILLS	728	3.62912088	1.03172685	0.03823834
RATE20	HR SKILLS	736	4.08831522	0.87229427	0.03215319
INSTRUCT	ITEMS 6,9,11,12,14,17-20	741	27.68690958	3.67338180	0.13494305
---------- 1 = EMPLOYED/0 = UNEMPLOYED=EMPLOYED ----------					
RATE6	MATCH WITH JOB REQUIREMTS	1265	3.86166008	0.83760061	0.02355004
RATE9	ONLY TECHNICAL SKILLS	1264	3.38686709	1.15737916	0.03255383
RATE11	INSTRUCTOR SKILLS	1256	4.32006369	0.87339353	0.02464422
RATE12	JOB EXPECTATIONS	1264	4.03718354	0.85583520	0.02410037
RATE14	JOB OPENING INFO	1263	3.65162312	0.95073338	0.02675205
RATE17	CARE OF TOOLS & EQUIP	1267	4.12786109	0.80248750	0.02254499
RATE18	WORK HABITS	1263	4.23357086	0.77811620	0.02189489
RATE19	JOB FINDING SKILLS	1262	3.69255151	1.02726896	0.02891708
RATE20	HR SKILLS	1264	4.00632911	0.88443449	0.02487666
INSTRUCT	ITEMS 6,9,11,12,14,17-20	1273	27.34092694	3.57951431	0.10032517

MEANS FOR ITEMS ASSESSING EQUIPMENT & SUPPLIES AND TOTAL SCORE
FOR STUDENTS WITH DIFFERENT EMPLOYMENT STATUSES
TOTAL SCORE (EQUIPMT) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- 1 = EMPLOYED/0 = UNEMPLOYED=MISSING ----------					
RATE7	TOOLS AND EQUIPMT	93	3.77419355	1.09474071	0.11351932
RATE8	SUPPLIES & MTLS	94	3.72340426	1.07167094	0.11053442
RATE21	MICROCOMPUTERS AVAIL	93	3.04301075	1.32627280	0.13752808
EQUIPMT	ITEMS 7,8,21	94	10.53191489	2.34498838	0.24186708
---------- 1 = EMPLOYED/0 = UNEMPLOYED=NOT EMPLOYED ----------					
RATE7	TOOLS AND EQUIPMT	737	3.94572592	0.89064357	0.03280728
RATE8	SUPPLIES & MTLS	732	3.93579235	1.03296039	0.03817931
RATE21	MICROCOMPUTERS AVAIL	729	2.77308203	1.33134914	0.04930923
EQUIPMT	ITEMS 7,8,21	741	10.60323387	2.14581687	0.07882855
---------- 1 = EMPLOYED/0 = UNEMPLOYED=EMPLOYED ----------					
RATE7	TOOLS AND EQUIPMT	1264	3.86867089	0.92480524	0.02601218
RATE8	SUPPLIES & MTLS	1262	3.83438986	1.06430346	0.02995959
RATE21	MICROCOMPUTERS AVAIL	1260	2.82619048	1.36358394	0.03841463
EQUIPMT	ITEMS 7,8,21	1273	10.51767478	2.26503577	0.06348350

MEANS FOR ITEMS ASSESSING TEACHING METHODS AND TOTAL SCORE
FOR STUDENTS WITH DIFFERENT EMPLOYMENT STATUSES
TOTAL SCORE (METHODS) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- 1 = EMPLOYED/0 = UNEMPLOYED=MISSING ----------					
RATE10	PLACEMENT SERVICE	92	2.96739130	1.05300290	0.10978314
RATE13	VOC STUDENT ORG	93	3.70967742	0.96211548	0.09976673
RATE16	HANDS-ON EXPER VALUE	93	4.02150538	0.94384153	0.09787181
RATE23	MICROCOMPUTER VALUE	93	3.18279570	1.08293318	0.11229494
METHODS	ITEMS 10,13,16,23	94	13.86170213	2.54677136	0.26267941
---------- 1 = EMPLOYED/0 = UNEMPLOYED=NOT EMPLOYED ----------					
RATE10	PLACEMENT SERVICE	722	2.85595568	1.10917207	0.04127911
RATE13	VOC STUDENT ORG	730	3.70958904	1.00644894	0.03725035
RATE16	HANDS-ON EXPER VALUE	736	4.20923913	0.82625059	0.03045600
RATE23	MICROCOMPUTER VALUE	732	3.14207650	1.10787755	0.04094833
METHODS	ITEMS 10,13,16,23	741	13.90013495	2.29588645	0.08434150
---------- 1 = EMPLOYED/0 = UNEMPLOYED=EMPLOYED ----------					
RATE10	PLACEMENT SERVICE	1259	2.98490866	1.23949104	0.03493257
RATE13	VOC STUDENT ORG	1260	3.68650794	1.00561199	0.02832991
RATE16	HANDS-ON EXPER VALUE	1265	4.15335968	0.87793280	0.02468403
RATE23	MICROCOMPUTER VALUE	1258	3.21462639	1.07774584	0.03033618
METHODS	ITEMS 10,13,16,23	1273	14.02278083	2.30605222	0.06463309

MEANS FOR ITEMS ASSESSING COOPERATION METHODS AND TOTAL SCORE
FOR STUDENTS WITH DIFFERENT EMPLOYMENT STATUSES
TOTAL SCORE (BUS_COOP) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- 1 = EMPLOYED/0 = UNEMPLOYED=MISSING ----------					
RATE22	MORE BUSINESS INVOLVEMT	94	3.72340426	0.95494475	0.09849503
RATE24	BUSINESS-INDUS[illegible] LOCATION	94	3.37234043	0.98356432	0.10144691
RATE25	TEACHERS EMPLO[illegible] IN INDUSTRY	94	3.64893617	0.91236956	0.09410373
BUS_COOP	ITEMS 22,24,25	94	10.74468085	1.87189841	0.19307158
---------- 1 = EMPLOYED/0 = UNEMPLOYED=NOT EMPLOYED ----------					
RATE22	MORE BUSINESS INVOLVEMT	732	3.98497268	88677369	0.03277610
RATE24	BUSINESS-INDUSTRY LOCATION	735	2.96775510	1.02614978	0.03785010
RATE25	TEACHERS EMPLOYED IN INDUSTRY	734	3.69346049	1.00749484	0.03718731
BUS_COOP	ITEMS 22,24,25	741	10.64777328	1.91899073	0.07049589
---------- 1 = EMPLOYED/0 = UNEMPLOYED=EMPLOYED ----------					
RATE22	MORE BUSINESS INVOLVEMT	1263	3.96516231	0.89569632	0.02520340
RATE24	BUSINESS-INDUSTRY LOCATION	1263	2.99841647	0.99284159	0.02793690
RATE25	TEACHERS EMPLOYED IN INDUSTRY	1266	3.65481833	1.01380027	0.02849283
BUS_COOP	ITEMS 22,24,25	1273	10.60722702	1.88748225	0.05290158

MEANS FOR ITEMS ASSESSING TEACHING METHODS AND TOTAL SCORE
FOR URBAN AND RURAL VOCATIONAL STUDENTS
TOTAL SCORE (METHODS) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- URBAN STATUS OF SCHOOL=RURAL SCHOOL ----------					
RATE10	PLACEMENT SERVICE	1807	2.96126176	1.19506375	0.02811331
RATE13	VOC STUDENT ORG	1813	3.69663541	0.99700143	0.02341515
RATE16	HANDS-ON EXPER VALUE	1823	4.14152496	0.86316452	0.02021623
RATE23	MICROCOMPUTER VALUE	1811	3.23467697	1.08257476	0.02543892
METHODS	ITEMS 10,13,16,23	1834	14.01690294	2.32851299	0.05437246
---------- URBAN STATUS OF SCHOOL=URBAN SCHOOL ----------					
RATE10	PLACEMENT SERVICE	266	2.78947368	1.13638043	0.06967595
RATE13	VOC STUDENT ORG	270	3.68888889	1.04874977	0.06382488
RATE16	HANDS-ON EXPER VALUE	271	4.33948339	0.84932986	0.05159311
RATE23	MICROCOMPUTER VALUE	272	2.87500000	1.07941148	0.06544893
METHODS	ITEMS 10,13,16,23	274	13.67518248	2.19063210	0.13234093

MEANS FOR ITEMS ASSESSING COOPERATION METHODS AND TOTAL SCORE
FOR URBAN AND RURAL VOCATIONAL STUDENTS
TOTAL SCORE (BUS_COOP) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- URBAN STATUS OF SCHOOL=RURAL SCHOOL ----------					
RATE22	MORE BUSINESS INVOLVEMT	1817	3.95597138	0.89309567	0.02095176
RATE24	BUSINESS-INDUSTRY LOCATION	1822	3.02963776	0.99763574	0.02337210
RATE25	TEACHERS EMPLOYED IN INDUSTRY	1822	3.66026345	0.99771923	0.02337406
BUS_COOP	ITEMS 22,24,25	1834	10.63249727	1.88286313	0.04396622
---------- URBAN STATUS OF SCHOOL=URBAN SCHOOL ----------					
RATE22	MORE BUSINESS INVOLVEMT	272	3.99632353	0.91924147	0.05573720
RATE24	BUSINESS-INDUSTRY LOCATION	270	2.88888889	1.06073319	0.06455417
RATE25	TEACHERS EMPLOYED IN INDUSTRY	272	3.72058824	1.06740487	0.06472093
BUS_COOP	ITEMS 22,24,25	274	10.59489051	1.99452809	0.12049385

MEANS FOR ITEMS ASSESSING EQUIPMENT & SUPPLIES AND TOTAL SCORE
FOR URBAN AND RURAL VOCATIONAL STUDENTS
TOTAL SCORE (EQUIPMT) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- URBAN STATUS OF SCHOOL=RURAL SCHOOL ----------					
RATE7	TOOLS AND EQUIPMT	1823	3.86560614	0.93065653	0.02179697
RATE8	SUPPLIES & MTLS	1817	3.84755091	1.06526341	0.02499076
RATE21	MICROCOMPUTERS AVAIL	1811	2.88183324	1.35530721	0.03184773
EQUIPMT	ITEMS 7,8,21	1834	10.58342421	2.27077739	0.05302429
---------- URBAN STATUS OF SCHOOL=URBAN SCHOOL ----------					
RATE7	TOOLS AND EQUIPMT	271	4.06642066	0.84064444	0.05106551
RATE8	SUPPLIES & MTLS	271	3.98154982	0.97545383	0.05925460
RATE21	MICROCOMPUTERS AVAIL	271	2.28044280	1.20598254	0.07325822
EQUIPMT	ITEMS 7,8,21	274	10.31386861	1.89370202	0.11440272

MEANS FOR ITEMS ASSESSING INSTRUCTION QUALITY AND TOTAL SCORE
FOR URBAN AND RURAL VOCATIONAL STUDENTS
TOTAL SCORE (INSTRUCT) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- URBAN STATUS OF SCHOOL=RURAL SCHOOL ----------					
RATE6	MATCH WITH JOB REQUIREMTS	1823	3.86615469	0.85352686	0.01999051
RATE9	ONLY TECHNICAL SKILLS	1818	3.31903190	1.17648991	0.02759251
RATE11	INSTRUCTOR SKILLS	1810	4.32762431	0.88370757	0.02077157
RATE12	JOB EXPECTATIONS	1820	4.06043956	0.86192175	0.02020376
RATE14	JOB OPENING INFO	1824	3.62719298	0.97766927	0.02289178
RATE17	CARE OF TOOLS & EQUIP	1827	4.14340449	0.80742313	0.01889000
RATE18	WORK HABITS	1816	4.23458150	0.77923049	0.01828555
RATE19	JOB FINDING SKILLS	1813	3.69718698	1.02527540	0.02407918
RATE20	HR SKILLS	1820	4.03626374	0.87340732	0.02047298
INSTRUCT	ITEMS 6,9,11,12,14,17-20	1834	27.33097056	3.61168173	0.08433538
---------- URBAN STATUS OF SCHOOL=URBAN SCHOOL ----------					
RATE6	MATCH WITH JOB REQUIREMTS	272	4.02205882	0.79171831	0.04800497
RATE9	ONLY TECHNICAL SKILLS	271	3.43173432	1.25090646	0.07598716
RATE11	INSTRUCTOR SKILLS	271	4.46863469	0.79694648	0.04841105
RATE12	JOB EXPECTATIONS	271	4.15129151	0.83621069	0.05079618
RATE14	JOB OPENING INFO	268	3.66417910	0.97107246	0.05931769
RATE17	CARE OF TOOLS & EQUIP	271	4.31365314	0.75114600	0.04562987
RATE18	WORK HABITS	272	4.28676471	0.75781866	0.04594951
RATE19	JOB FINDING SKILLS	271	3.46125461	1.02802070	0.06244781
RATE20	HR SKILLS	273	3.98168498	0.97186227	0.05881978
INSTRUCT	ITEMS 6,9,11,12,14,17-20	274	27.95985401	3.72328501	0.22493187

APPENDIX C-IV.3

MEANS FOR ITEMS ASSESSING POTENTIAL CRITERIA AND TOTAL SCORE
FOR MALE AND FEMALE VOCATIONAL STUDENTS
TOTAL SCORE (CRITERIA) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
		RESPONDENT SEX=MISSING			
RATE1	JOB PLACEMENT	162	4.20987654	0.74293441	0.05837044
RATE2	SKILL ACQUISITION	161	2.91304348	1.20618875	0.09506099
RATE3	UP-TO-DATE EQUIPMT	162	4.44444444	0.71366433	0.05607076
RATE4	ACTUAL JOB EXPERIENCE	160	4.24375000	0.75023581	0.05931135
RATE5	EMPLOYER EVALUATION	160	3.48125000	0.94484284	0.07469638
RATE26	VOC ED AS ALTERNATIVE	160	3.83750000	0.95091813	0.07517668
CRITERIA	ITEMS 1-5,26	162	23.09876543	2.75598442	0.21684486
		RESPONDENT SEX=MALE			
RATE1	JOB PLACEMENT	1071	4.14379085	0.79475665	0.02428514
RATE2	SKILL ACQUISITION	1070	2.81775701	1.17880511	0.03603712
RATE3	UP-TO-DATE EQUIPMT	1069	4.43030870	0.75578790	0.02311591
RATE4	ACTUAL JOB EXPERIENCE	1067	4.18369260	0.79985708	0.02448670
RATE5	EMPLOYER EVALUATION	1064	3.46992481	0.94785870	0.02905847
RATE26	VOC ED AS ALTERNATIVE	1067	3.76850984	1.08105897	0.03309536
CRITERIA	ITEMS 1-5,26	1074	22.78770950	3.00629935	0.09173395
		RESPONDENT SEX=FEMALE			
RATE1	JOB PLACEMENT	868	4.21428571	0.74262452	0.02520632
RATE2	SKILL ACQUISITION	865	2.72254335	1.18214455	0.04019412
RATE3	UP-TO-DATE EQUIPMT	866	4.46651270	0.74611043	0.02535386
RATE4	ACTUAL JOB EXPERIENCE	866	4.34988453	0.72525458	0.02464515
RATE5	EMPLOYER EVALUATION	865	3.29364162	0.98566991	0.03351378
RATE26	VOC ED AS ALTERNATIVE	867	3.85351788	1.08973627	0.03700938
CRITERIA	ITEMS 1-5,26	872	22.87041284	2.76403768	0.09360213

MEANS FOR ITEMS ASSESSING TEACHING METHODS AND TOTAL SCORE
FOR MALE AND FEMALE VOCATIONAL STUDENTS
TOTAL SCORE (METHODS) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
		RESPONDENT SEX=MISSING			
RATE10	PLACEMENT SERVICE	158	3.01265823	1.17829274	0.09373994
RATE13	VOC STUDENT ORG	157	3.64968153	0.99914221	0.07974023
RATE16	HANDS-ON EXPER VALUE	160	4.16250000	0.92408377	0.07305524
RATE23	MICROCOMPUTER VALUE	155	3.07096774	1.05750059	0.08494049
METHODS	ITEMS 10,13,16,23	162	13.85802469	2.34286883	0.18407316
		RESPONDENT SEX=MALE			
RATE10	PLACEMENT SERVICE	1061	2.84071631	1.13855298	0.03495389
RATE13	VOC STUDENT ORG	1064	3.59210526	1.02415497	0.03139749
RATE16	HANDS-ON EXPER VALUE	1070	4.19813084	0.86291230	0.02633000
RATE23	MICROCOMPUTER VALUE	1066	3.12195122	1.12427184	0.03443442
METHODS	ITEMS 10,13,16,23	1074	13.74394786	2.27932595	0.06955115
		RESPONDENT SEX=FEMALE			
RATE10	PLACEMENT SERVICE	854	3.04800937	1.24163396	0.04248784
RATE13	VOC STUDENT ORG	862	3.83178654	0.98309704	0.03380237
RATE16	HANDS-ON EXPER VALUE	864	4.12962963	0.85269764	0.02900936
RATE23	MICROCOMPUTER VALUE	862	3.29002320	1.04124813	0.03546505
METHODS	ITEMS 10,13,16,23	872	14.27522936	2.31798060	0.07849700

MEANS FOR ITEMS ASSESSING COOPERATION METHODS AND TOTAL SCORE
FOR MALE AND FEMALE VOCATIONAL STUDENTS
TOTAL SCORE (BUS_COOP) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
RESPONDENT SEX=MISSING					
RATE22	MORE BUSINESS INVOLVEMT	160	3.89375000	0.93564544	0.07396927
RATE24	BUSINESS-INDUSTRY LOCATION	161	3.12422360	1.05331479	0.08301283
RATE25	TEACHERS EMPLOYED IN INDUSTRY	161	3.57763975	0.97877316	0.07713813
BUS_COOP	ITEMS 22,24,25	162	10.58024691	1.84400454	0.14487868
RESPONDENT SEX=MALE					
RATE22	MORE BUSINESS INVOLVEMT	1063	3.89557855	0.90271051	0.02768738
RATE24	BUSINESS-INDUSTRY LOCATION	1067	3.07497657	0.99152217	0.03035430
RATE25	TEACHERS EMPLOYED IN INDUSTRY	1067	3.72352390	0.96244663	0.02946419
BUS_COOP	ITEMS 22,24,25	1074	10.67970205	1.90252138	0.05805337
RESPONDENT SEX=FEMALE					
RATE22	MORE BUSINESS INVOLVEMT	866	4.05427252	0.87379922	0.02969291
RATE24	BUSINESS-INDUSTRY LOCATION	864	2.91203704	1.00940313	0.03434076
RATE25	TEACHERS EMPLOYED IN INDUSTRY	866	3.61662818	1.06152935	0.03607224
BUS_COOP	ITEMS 22,24,25	872	10.57224771	1.90094798	0.06437422

MEANS FOR ITEMS ASSESSING EQUIPMENT & SUPPLIES AND TOTAL SCORE
FOR MALE AND FEMALE VOCATIONAL STUDENTS
TOTAL SCORE (EQUIPMT) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
RESPONDENT SEX=MISSING					
RATE7	TOOLS AND EQUIPMT	159	3.95597484	0.92329838	0.07322232
RATE8	SUPPLIES & MTLS	161	3.85714286	1.01770049	0.08020603
RATE21	MICROCOMPUTERS AVAIL	158	2.75949367	1.31831962	0.10487988
EQUIPMT	ITEMS 7,8,21	162	10.55555556	2.07319479	0.16283557
RESPONDENT SEX=MALE					
RATE7	TOOLS AND EQUIPMT	1069	3.83536015	0.95155274	0.02910342
RATE8	SUPPLIES & MTLS	1064	3.73590226	1.12224934	0.03440476
RATE21	MICROCOMPUTERS AVAIL	1066	2.68667917	1.33825997	0.04098849
EQUIPMT	ITEMS 7,8,21	1074	10.24953445	2.26466943	0.06910392
RESPONDENT SEX=FEMALE					
RATE7	TOOLS AND EQUIPMT	866	3.94919169	0.87993955	0.02990157
RATE8	SUPPLIES & MTLS	863	4.02549247	0.94968499	0.03232765
RATE21	MICROCOMPUTERS AVAIL	858	2.95687646	1.36098514	0.04646327
EQUIPMT	ITEMS 7,8,21	872	10.91513761	2.15360755	0.07293035

MEANS FOR ITEMS ASSESSING INSTRUCTION QUALITY AND TOTAL SCORE
FOR MALE AND FEMALE VOCATIONAL STUDENTS
TOTAL SCORE (INSTRUCT) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- RESPONDENT SEX=MISSING ----------					
RATE6	MATCH WITH JOB REQUIREMTS	161	3.81987578	0.85796415	0.06761705
RATE9	ONLY TECHNICAL SKILLS	158	3.12025316	1.19637241	0.09517823
RATE11	INSTRUCTOR SKILLS	157	4.31847134	0.89183056	0.07117583
RATE12	JOB EXPECTATIONS	157	4.10828025	0.86661453	0.06916337
RATE14	JOB OPENING INFO	161	3.73913043	0.93221335	0.07346870
RATE17	CARE OF TOOLS & EQUIP	161	4.07453416	0.88425671	0.06968919
RATE18	WORK HABITS	161	4.25465839	0.76876120	0.06058687
RATE19	JOB FINDING SKILLS	159	3.72955975	0.99800773	0.07914716
RATE20	HR SKILLS	160	3.99375000	0.91457022	0.07230312
INSTRUCT	ITEMS 6,9,11,12,14,17-20	162	27.06790123	3.70013688	0.29071021
---------- RESPONDENT SEX=MALE ----------					
RATE6	MATCH WITH JOB REQUIREMTS	1066	3.74390244	0.85967860	0.02633040
RATE9	ONLY TECHNICAL SKILLS	1066	3.21951220	1.19727160	0.03667027
RATE11	INSTRUCTOR SKILLS	1059	4.31822474	0.89330667	0.02760429
RATE12	JOB EXPECTATIONS	1066	3.97279550	0.86898038	0.02661532
RATE14	JOB OPENING INFO	1066	3.48686679	0.96429990	0.02953477
RATE17	CARE OF TOOLS & EQUIP	1071	4.15966387	0.81326473	0.02485062
RATE18	WORK HABITS	1064	4.12969925	0.82191383	0.02519739
RATE19	JOB FINDING SKILLS	1063	3.45343368	1.05205603	0.03226802
RATE20	HR SKILLS	1066	3.87617261	0.91397845	0.02799351
INSTRUCT	ITEMS 6,9,11,12,14,17-20	1074	26.73091248	3.53404870	0.10783764
---------- RESPONDENT SEX=FEMALE ----------					
RATE6	MATCH WITH JOB REQUIREMTS	868	4.07373272	0.79305019	0.02691788
RATE9	ONLY TECHNICAL SKILLS	865	3.51329480	1.14871965	0.03905764
RATE11	INSTRUCTOR SKILLS	865	4.38497110	0.83942539	0.02854132
RATE12	JOB EXPECTATIONS	868	4.18778802	0.83077355	0.02819830
RATE14	JOB OPENING INFO	865	3.79075145	0.97368502	0.03310628
RATE17	CARE OF TOOLS & EQUIP	866	4.10937644	0.77156268	0.02621877
RATE18	WORK HABITS	863	4.37659328	0.69519997	0.02366488
RATE19	JOB FINDING SKILLS	862	3.91763341	0.94392856	0.03215033
RATE20	HR SKILLS	867	4.22376009	0.80743553	0.02742195
INSTRUCT	ITEMS 6,9,11,12,14,17-20	872	28.31651376	3.54609505	0.12006593

MEANS FOR ITEMS ASSESSING POTENTIAL CRITERIA AND TOTAL SCORE
FOR STUDENTS IN DIFFERENT VOCATIONAL AREAS
TOTAL SCORE (CRITERIA) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- CURRENT VOC PROGRAM=MISSING ----------					
RATE1	JOB PLACEMENT	19	3.89473684	0.93658581	0.21486752
RATE2	SKILL ACQUISITION	19	3.05263158	1.22355058	0.28070175
RATE3	UP-TO-DATE EQUIPMT	19	4.10526316	0.99413485	0.22807018
RATE4	ACTUAL JOB EXPERIENCE	18	3.72222222	1.36362646	0.32140934
RATE5	EMPLOYER EVALUATION	19	3.47368421	0.84119102	0.19298246
RATE26	VOC ED AS ALTERNATIVE	18	3.77777778	1.11437429	0.26266054
CRITERIA	ITEMS 1-5,26	19	21.94736842	3.27403394	0.75111490
---------- CURRENT VOC PROGRAM=AGRICULTURE ----------					
RATE1	JOB PLACEMENT	128	4.02343750	0.77829658	0.06879235
RATE2	SKILL ACQUISITION	128	2.95312500	1.19618406	0.10572873
RATE3	UP-TO-DATE EQUIPMT	128	4.39843750	0.75649257	0.06686513
RATE4	ACTUAL JOB EXPERIENCE	127	4.15748031	0.83023421	0.07367137
RATE5	EMPLOYER EVALUATION	127	3.47244094	0.95806329	0.08501437
RATE26	VOC ED AS ALTERNATIVE	128	3.57031250	1.16837321	0.10327058
CRITERIA	ITEMS 1-5,26	130	22.49230769	3.58560030	0.31447795
---------- CURRENT VOC PROGRAM=BUSINESS & OFFICE ----------					
RATE1	JOB PLACEMENT	358	4.17318436	0.72037683	0.03807310
RATE2	SKILL ACQUISITION	357	2.60504202	1.13091258	0.05985424
RATE3	UP-TO-DATE EQUIPMT	357	4.50420168	0.72135114	0.03817795
RATE4	ACTUAL JOB EXPERIENCE	358	4.13128492	0.76482474	0.04042224
RATE5	EMPLOYER EVALUATION	356	3.33426966	0.94827035	0.05025823
RATE26	VOC ED AS ALTERNATIVE	357	3.84593838	1.08605534	0.05752248
CRITERIA	ITEMS 1-5,26	358	22.56659218	2.55517032	0.13504495
---------- CURRENT VOC PROGRAM=DISTRIBUTIVE EDUC ----------					
RATE1	JOB PLACEMENT	188	4.00000000	0.82085126	0.05986673
RATE2	SKILL ACQUISITION	188	2.82978723	1.14824486	0.08374436
RATE3	UP-TO-DATE EQUIPMT	188	4.23936170	0.74657408	0.05444951
RATE4	ACTUAL JOB EXPERIENCE	187	4.28877005	0.72736975	0.05319054
RATE5	EMPLOYER EVALUATION	188	3.23936170	0.93141467	0.06793040
RATE26	VOC ED AS ALTERNATIVE	183	3.77659574	1.11051614	0.08099271
CRITERIA	ITEMS 1-5,26	188	22.36702128	2.76308315	0.20151855
---------- CURRENT VOC PROGRAM=HEALTH OCS ----------					
RATE1	JOB PLACEMENT	214	4.29906542	0.81321195	0.05559002
RATE2	SKILL ACQUISITION	215	2.93953488	1.25343258	0.08548339
RATE3	UP-TO-DATE EQUIPMT	214	4.56542056	0.64489367	0.04408402
RATE4	ACTUAL JOB EXPERIENCE	214	4.64018692	0.53643928	0.03667023
RATE5	EMPLOYER EVALUATION	214	3.35514019	1.05485541	0.07210943
RATE26	VOC ED AS ALTERNATIVE	215	3.92558140	1.00188911	0.06832827
CRITERIA	ITEMS 1-5,26	216	23.67592593	2.75623168	0.18753781

MEANS FOR ITEMS ASSESSING POTENTIAL CRITERIA AND TOTAL SCORE
FOR STUDENTS IN DIFFERENT VOCATIONAL AREAS
TOTAL SCORE (CRITERIA) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- CURRENT VOC PROGRAM=OCCUP HOME ECON ----------					
RATE1	JOB PLACEMENT	99	4.31313131	0.67983288	0.06832578
RATE2	SKILL ACQUISITION	96	2.84375000	1.17274420	0.11969270
RATE3	UP-TO-DATE EQUIPMT	97	4.28865979	0.87748175	0.08909477
RATE4	ACTUAL JOB EXPERIENCE	96	4.28125000	0.31696647	0.08338129
RATE5	EMPLOYER EVALUATION	97	3.42268041	1.05903899	0.10752912
RATE26	VOC ED AS ALTERNATIVE	97	3.76288660	1.00802195	0.10234912
CRITERIA	ITEMS 1-5,26	99	22.82828283	2.69178798	0.27053487
---------- CURRENT VOC PROGRAM=TECHNICAL EDUC ----------					
RATE1	JOB PLACEMENT	85	4.23529412	0.78143730	0.08475878
RATE2	SKILL ACQUISITION	86	2.76744186	1.12380047	0.12118252
RATE3	UP-TO-DATE EQUIPMT	86	4.60465116	0.69076377	0.07448597
RATE4	ACTUAL JOB EXPERIENCE	85	4.40000000	0.60158521	0.06525108
RATE5	EMPLOYER EVALUATION	85	3.49411765	1.01914448	0.11054174
RATE26	VOC ED AS ALTERNATIVE	85	4.00000000	0.98802352	0.10716620
CRITERIA	ITEMS 1-5,26	86	23.45348837	2.82699998	0.30484325
---------- CURRENT VOC PROGRAM=TRADE & INDUSTRIAL OCS ----------					
RATE1	JOB PLACEMENT	589	4.19185059	0.77516828	0.03194025
RATE2	SKILL ACQUISITION	589	2.76570458	1.20913982	0.04982174
RATE3	UP-TO-DATE EQUIPMT	587	4.43781942	0.76893660	0.03173741
RATE4	ACTUAL JOB EXPERIENCE	588	4.21258503	0.80715167	0.03328637
RATE5	EMPLOYER EVALUATION	585	3.43931624	0.98106711	0.04056213
RATE26	VOC ED AS ALTERNATIVE	587	3.81431005	1.10595641	0.04564771
CRITERIA	ITEMS 1-5,26	591	22.83248731	2.96774075	0.12207654
---------- CURRENT VOC PROGRAM=OTHER ----------					
RATE1	JOB PLACEMENT	421	4.19714964	0.74743463	0.03642773
RATE2	SKILL ACQUISITION	418	2.79665072	1.16474523	0.05696955
RATE3	UP-TO-DATE EQUIPMT	421	4.47505938	0.73190574	0.03567090
RATE4	ACTUAL JOB EXPERIENCE	420	4.23571429	0.74033450	0.03612560
RATE5	EMPLOYER EVALUATION	418	3.43540670	0.90131263	0.04408464
RATE26	VOC ED AS ALTERNATIVE	419	3.77088305	1.03757720	0.05068096
CRITERIA	ITEMS 1-5,26	421	22.90261283	2.87973503	0.14034970

MEANS FOR ITEMS ASSESSING TEACHING METHODS AND TOTAL SCORE
FOR STUDENTS IN DIFFERENT VOCATIONAL AREAS
TOTAL SCORE (METHODS) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
CURRENT VOC PROGRAM=MISSING					
RATE10	PLACEMENT SERVICE	18	3.22222222	1.16596618	0.27482086
RATE13	VOC STUDENT ORG	17	2.94117647	1.14403826	0.27747003
RATE16	HANDS-ON EXPER VALUE	18	4.00000000	0.90748521	0.21389632
RATE23	MICROCOMPUTER VALUE	18	3.44444444	1.09663776	0.25848000
METHODS	ITEMS 10,13,16,23	19	13.52631579	2.29415734	0.52631579
CURRENT VOC PROGRAM=AGRICULTURE					
RATE10	PLACEMENT SERVICE	126	2.98412698	1.25209665	0.11154564
RATE13	VOC STUDENT ORG	128	3.71093750	1.02067095	0.09021542
RATE16	HANDS-ON EXPER VALUE	128	3.98437500	0.88721785	0.07841972
RATE23	MICROCOMPUTER VALUE	128	3.30468750	1.12633088	0.09955523
METHODS	ITEMS 10,13,16,23	130	13.95384615	2.56651526	0.22509628
CURRENT VOC PROGRAM=BUSINESS & OFFICE					
RATE10	PLACEMENT SERVICE	355	3.03943662	1.33133454	0.07065990
RATE13	VOC STUDENT ORG	356	3.77528090	0.97290399	0.05156381
RATE16	HANDS-ON EXPER VALUE	356	4.08426966	0.81788444	0.04334779
RATE23	MICROCOMPUTER VALUE	354	3.66101695	0.98043471	0.05210952
METHODS	ITEMS 10,13,16,23	358	14.54189944	2.34363762	0.12386510
CURRENT VOC PROGRAM=DISTRIBUTIVE EDUC					
RATE10	PLACEMENT SERVICE	185	3.17837838	1.29613454	0.09529371
RATE13	VOC STUDENT ORG	186	3.83333333	0.89392343	0.06554565
RATE16	HANDS-ON EXPER VALUE	187	3.74331551	0.93233187	0.06817886
RATE23	MICROCOMPUTER VALUE	186	3.23118280	1.01624412	0.07451463
METHODS	ITEMS 10,13,16,23	188	13.96808511	2.30531647	0.16813248
CURRENT VOC PROGRAM=HEALTH OCS					
RATE10	PLACEMENT SERVICE	211	3.03791469	1.09912667	0.07566700
RATE13	VOC STUDENT ORG	215	3.97674419	0.98797376	0.06737925
RATE16	HANDS-ON EXPER VALUE	214	4.2 635514	0.87698201	0.05994926
RATE23	MICROCOMPUTER VALUE	215	2.80465116	1.00418598	0.06848492
METHODS	ITEMS 10,13,16,23	216	14.06944444	2.23914262	0.15235436
CURRENT VOC PROGRAM=OCCUP HOME ECON					
RATE10	PLACEMENT SERVICE	95	3.16842105	1.23471619	0.12667921
RATE13	VOC STUDENT ORG	95	3.83157895	0.76704228	0.07869688
RATE16	HANDS-ON EXPER VALUE	97	4.01030928	0.85992787	0.08731245
RATE23	MICROCOMPUTER VALUE	93	3.01075269	0.82744530	0.08580208
METHODS	ITEMS 10,13,16,23	99	13.95959596	2.07963494	0.20901118

MEANS FOR ITEMS ASSESSING TEACHING METHODS AND TOTAL SCORE
FOR STUDENTS IN DIFFERENT VOCATIONAL AREAS
TOTAL SCORE (METHODS) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
CURRENT VOC PROGRAM=TECHNICAL EDUC					
RATE10	PLACEMENT SERVICE	82	[illegible]9024390	1.14402471	0.12633639
RATE13	VOC STUDENT ORG	84	3.59523810	1.01931997	0.11121693
RATE16	HANDS-ON EXPER VALUE	85	4.18823529	1.09646746	0.11892859
RATE23	MICROCOMPUTER VALUE	85	3.44705882	1.05227511	0.11413526
METHODS	ITEMS 10,13,16,23	86	14.09302326	2.41382248	0.26028917
CURRENT VOC PROGRAM=TRADE & INDUSTRIAL OCS					
RATE10	PLACEMENT SERVICE	586	2.85494881	1.12064591	0.04629346
RATE13	VOC STUDENT ORG	587	3.60477002	1.05828976	0.04368029
RATE16	HANDS-ON EXPER VALUE	589	4.31409168	0.79634907	0.03281299
RATE23	MICROCOMPUTER VALUE	587	3.02555366	1.12875592	0.04658874
METHODS	ITEMS 10,13,16,23	591	13.79187817	2.28680853	0.09406673
CURRENT VOC PROGRAM=OTHER					
RATE10	PLACEMENT SERVICE	415	2.74698795	1.09062068	0.05353646
RATE13	VOC STUDENT ORG	415	3.56385542	0.99036156	0.04861494
RATE16	HANDS-ON EXPER VALUE	420	4.26428571	0.81405360	0.03972175
RATE23	MICROCOMPUTER VALUE	417	3.13189448	1.09384841	0.05356599
METHODS	ITEMS 10,13,16,23	421	13.69833729	2.24705[illegible]66	0.10951479

MEANS FOR ITEMS ASSESSING COOPERATION METHODS AND TOTAL SCORE
FOR STUDENTS IN DIFFERENT VOCATIONAL AREAS
TOTAL SCORE (BUS_COOP) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
CURRENT VOC PROGRAM=MISSING					
RATE22	MORE BUSINESS INVOLVEMT	18	3.72222222	1.01781517	0.23990134
RATE24	BUSINESS-INDUSTRY LOCATION	18	2.61111111	1.09215862	0.25742426
RATE25	TEACHERS EMPLOYED IN INDUSTRY	18	3.44444444	1.14902630	0.27082810
BUS_COOP	ITEMS 22,24,25	19	9.73684211	1.91026773	0.43824547
CURRENT VOC PROGRAM=AGRICULTURE					
RATE22	MORE BUSINESS INVOLVEMT	127	4.00787402	0.73997064	0.06566178
RATE24	BUSINESS-INDUSTRY LOCATION	128	3.13281250	1.00683564	0.08899254
RATE25	TEACHERS EMPLOYED IN INDUSTRY	128	3.64843750	0.91865910	0.08119876
BUS_COOP	ITEMS 22,24,25	130	10.75384615	1.71207086	0.15015655
CURRENT VOC PROGRAM=BUSINESS & OFFICE					
RATE22	MORE BUSINESS INVOLVEMT	357	4.10924370	0.79099478	0.04186388
RATE24	BUSINESS-INDUSTRY LOCATION	356	3.00561798	0.98150325	0.05201957
RATE25	TEACHERS EMPLOYED IN INDUSTRY	356	3.39887640	1.02553257	0.05435312
BUS_COOP	ITEMS 22,24,25	358	10.50837989	1.93122279	0.10206830
CURRENT VOC PROGRAM=DISTRIBUTIVE EDUC					
RATE22	MORE BUSINESS INVOLVEMT	187	4.06951872	0.92194353	0.06741919
RATE24	BUSINESS-INDUSTRY LOCATION	188	3.00531915	0.95063919	0.06933249
RATE25	TEACHERS EMPLOYED IN INDUSTRY	188	3.25531915	0.94711688	0.06907560
BUS_COOP	ITEMS 22,24,25	188	10.32446809	1.80197077	0.13142223
CURRENT VOC PROGRAM=HEALTH OCS					
RATE22	MORE BUSINESS INVOLVEMT	215	3.93953488	0.90743027	0.06188623
RATE24	BUSINESS-INDUSTRY LOCATION	215	2.62790698	1.04172879	0.07104531
RATE25	TEACHERS EMPLOYED IN INDUSTRY	215	4.08372093	0.96308748	0.06568202
BUS_COOP	ITEMS 22,24,25	216	10.64351852	1.91390375	0.13022466
CURRENT VOC PROGRAM=OCCUP HOME ECON					
RATE22	MORE BUSINESS INVOLVEMT	97	3.95876289	0.85290589	0.08659947
RATE24	BUSINESS-INDUSTRY LOCATION	95	3.12631579	0.97021719	0.09954218
RATE25	TEACHERS EMPLOYED IN INDUSTRY	97	3.68041237	0.99526370	0.10105372
BUS_COOP	ITEMS 22,24,25	99	10.72727273	1.66437226	0.16732596
CURRENT VOC PROGRAM=TECHNICAL EDUC					
RATE22	MORE BUSINESS INVOLVEMT	85	4.01176471	0.94483707	0.10248197
RATE24	BUSINESS-INDUSTRY LOCATION	84	3.23809524	0.95209405	0.10389198
RATE25	TEACHERS EMPLOYED IN INDUSTRY	85	3.50588235	0.92096689	0.09989284
BUS_COOP	ITEMS 22,24,25	86	10.73255814	1.80472855	0.19460688
CURRENT VOC PROGRAM=TRADE & INDUSTRIAL OCS					
RATE22	MORE BUSINESS INVOLVEMT	587	3.91141397	0.92499749	0.03817873
RATE24	BUSINESS-INDUSTRY LOCATION	590	3.01694915	0.99730580	0.04105843
RATE25	TEACHERS EMPLOYED IN INDUSTRY	589	3.80984720	0.96071020	0.03958537
BUS_COOP	ITEMS 22,24,25	591	10.72927242	1.90302328	0.07827992
CURRENT VOC PROGRAM=OTHER					
RATE22	MORE BUSINESS INVOLVEMT	416	3.85336538	0.94429841	0.04629804
RATE24	BUSINESS-INDUSTRY LOCATION	418	3.11722488	1.01694985	0.04974054
RATE25	TEACHERS EMPLOYED IN INDUSTRY	418	3.71531100	1.01914763	0.04984814
BUS_COOP	ITEMS 22,24,25	421	10.66983373	2.00065875	0.09750614

MEANS FOR ITEMS ASSESSING EQUIPMENT & SUPPLIES AND TOTAL SCORE
FOR STUDENTS IN DIFFERENT VOCATIONAL AREAS
TOTAL SCORE (EQUIPMT) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- CURRENT VOC PROGRAM=MISSING ----------					
RATE7	TOOLS AND EQUIPMT	18	3.66666667	1.13759292	0.26813322
RATE8	SUPPLIES & MTLS	18	4.00000000	1.02899151	0.24253563
RATE21	MICROCOMPUTERS AVAIL	18	2.72222222	1.17851130	0.27777778
EQUIPMT	ITEMS 7,8,21	19	10.31578947	1.68716812	0.43294606
---------- CURRENT VOC PROGRAM=AGRICULTURE ----------					
RATE7	TOOLS AND EQUIPMT	128	3.75781250	0.87615924	0.07744227
RATE8	SUPPLIES & MTLS	127	3.59055118	1.12936512	0.10021495
RATE21	MICROCOMPUTERS AVAIL	128	3.07031250	1.28089286	0.11321600
EQUIPMT	ITEMS 7,8,21	130	10.39230769	2.23951875	0.19641879
---------- CURRENT VOC PROGRAM=BUSINESS & OFFICE ----------					
RATE7	TOOLS AND EQUIPMT	358	4.12011173	0.80585253	0.04259063
RATE8	SUPPLIES & MTLS	357	4.14845938	0.93185156	0.04931881
RATE21	MICROCOMPUTERS AVAIL	354	3.67796610	1.27438052	0.06773256
EQUIPMT	ITEMS 7,8,21	358	11.93575419	2.00106578	0.10575961
---------- CURRENT VOC PROGRAM=DISTRIBUTIVE EDUC ----------					
RATE7	TOOLS AND EQUIPMT	186	3.34946237	0.97060846	0.07116847
RATE8	SUPPLIES & MTLS	187	3.69518717	0.97171190	0.07105861
RATE21	MICROCOMPUTERS AVAIL	187	2.83957219	1.26827960	0.09274579
EQUIPMT	ITEMS 7,8,21	188	9.87765957	2.11208158	0.15403938
---------- CURRENT VOC PROGRAM=HEALTH OCS ----------					
RATE7	TOOLS AND EQUIPMT	215	4.07441860	0.84502199	0.05763002
RATE8	SUPPLIES & MTLS	215	4.10232558	0.85311096	0.05818168
RATE21	MICROCOMPUTERS AVAIL	215	2.21395349	1.03255001	0.07041933
EQUIPMT	ITEMS 7,8,21	216	10.38425926	1.83646080	0.12495533
---------- CURRENT VOC PROGRAM=OCCUP HOME ECON ----------					
RATE7	TOOLS AND EQUIPMT	97	3.68041237	1.01598056	0.10315720
RATE8	SUPPLIES & MTLS	96	3.79166667	1.11371041	0.11366759
RATE21	MICROCOMPUTERS AVAIL	96	2.59375000	1.10098640	0.11236895
EQUIPMT	ITEMS 7,8,21	99	10.04040404	2.09916986	0.21097451
---------- CURRENT VOC PROGRAM=TECHNICAL EDUC ----------					
RATE7	TOOLS AND EQUIPMT	85	3.97647059	1.01155786	0.10971885
RATE8	SUPPLIES & MTLS	85	3.87058824	1.20305400	0.13048953
RATE21	MICROCOMPUTERS AVAIL	85	3.27058824	1.47509673	0.15999670
EQUIPMT	ITEMS 7,8,21	86	11.09302326	2.66843585	0.23774699
---------- CURRENT VOC PROGRAM=TRADE & INDUSTRIAL OCS ----------					
RATE7	TOOLS AND EQUIPMT	588	3.90476190	0.92353910	0.03809611
RATE8	SUPPLIES & MTLS	586	3.77303754	1.10230062	0.04553562
RATE21	MICROCOMPUTERS AVAIL	585	2.48034188	1.31249523	0.05426500
EQUIPMT	ITEMS 7,8,21	591	10.15223426	2.18325461	0.08980709
---------- CURRENT VOC PROGRAM=OTHER ----------					
RATE7	TOOLS AND EQUIPMT	419	3.90692124	0.88226808	0.04310162
RATE8	SUPPLIES & MTLS	417	3.79856115	1.09428364	0.05309760
RATE21	MICROCOMPUTERS AVAIL	414	2.67632850	1.32093226	0.06492023
EQUIPMT	ITEMS 7,8,21	421	10.37529691	2.15953207	0.10524915

MEANS FOR ITEMS ASSESSING INSTRUCTION QUALITY AND TOTAL SCORE
FOR STUDENTS IN DIFFERENT VOCATIONAL AREAS
TOTAL SCORE (INSTRUCT) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- CURRENT VOC PROGRAM=MISSING ----------					
RATE6	MATCH WITH JOB REQUIREMTS	17	3.64705882	1.16946443	0.28363679
RATE9	ONLY TECHNICAL SKILLS	18	2.66666667	1.08465229	0.25565500
RATE11	INSTRUCTOR SKILLS	17	3.70588235	1.44761467	0.35109813
RATE12	JOB EXPECTATIONS	17	3.82352941	1.13111085	0.27433468
RATE14	JOB OPENING INFO	18	3.66666667	0.84016805	0.19802951
RATE17	CARE OF TOOLS & EQUIP	18	4.00000000	0.90748521	0.21389632
RATE18	WORK HABITS	17	4.11764706	0.85749293	0.20797258
RATE19	JOB FINDING SKILLS	17	3.70588235	0.84887469	0.20588235
RATE20	HR SKILLS	18	3.66666667	0.97014250	0.22866473
INSTRUCT	ITEMS 6,9,11,12,14,17-20	19	24.84210526	4.43800703	1.01814864
---------- CURRENT VOC PROGRAM=AGRICULTURE ----------					
RATE6	MATCH WITH JOB REQUIREMTS	128	3.74218750	0.85339612	0.07543027
RATE9	ONLY TECHNICAL SKILLS	127	3.19685039	1.15497111	0.10248711
RATE11	INSTRUCTOR SKILLS	126	3.98412698	1.01180336	0.09013861
RATE12	JOB EXPECTATIONS	128	3.64062500	1.04039949	0.09195919
RATE14	JOB OPENING INFO	127	3.52755906	0.94974325	0.08427609
RATE17	CARE OF TOOLS & EQUIP	128	4.02343750	0.80807776	0.07142466
RATE18	WORK HABITS	125	3.96800000	0.88842013	0.07946271
RATE19	JOB FINDING SKILLS	127	3.43307087	1.02035281	0.09054167
RATE20	HR SKILLS	124	3.70967742	0.97758782	0.08778998
INSTRUCT	ITEMS 6,9,11,12,14,17-20	130	25.70769231	3.72805445	0.32697201
---------- CURRENT VOC PROGRAM=BUSINESS & OFFICE ----------					
RATE6	MATCH WITH JOB REQUIREMTS	357	4.10084034	0.75767561	0.04010045
RATE9	ONLY TECHNICAL SKILLS	357	3.51820728	1.11063760	0.05878118
RATE11	INSTRUCTOR SKILLS	357	4.31372549	0.90078422	0.04767456
RATE12	JOB EXPECTATIONS	356	4.16292135	0.81629628	0.04326362
RATE14	JOB OPENING INFO	357	3.77030812	0.95864673	0.05073697
RATE17	CARE OF TOOLS & EQUIP	357	4.26050420	0.73586514	0.03894611
RATE18	WORK HABITS	355	4.35211268	0.69904276	0.03710134
RATE19	JOB FINDING SKILLS	356	3.96629213	0.89063280	0.04720344
RATE20	HR SKILLS	357	4.16806723	0.85116570	0.04504847
INSTRUCT	ITEMS 6,9,11,12,14,17-20	358	28.27094972	3.57423000	0.18890393

MEANS FOR ITEMS ASSESSING INSTRUCTION QUALITY AND TOTAL SCORE
FOR STUDENTS IN DIFFERENT VOCATIONAL AREAS
TOTAL SCORE (INSTRUCT) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- CURRENT VOC PROGRAM=DISTRIBUTIVE EDUC ----------					
RATE6	MATCH WITH JOB REQUIREMTS	187	3.78074866	0.89205181	0.06523329
RATE9	ONLY TECHNICAL SKILLS	187	3.51336898	1.02840459	0.07520439
RATE11	INSTRUCTOR SKILLS	185	4.10810811	0.84002406	0.06175980
RATE12	JOB EXPECTATIONS	185	3.89189189	0.87177305	0.06409403
RATE14	JOB OPENING INFO	187	3.55614973	0.98417704	0.07197015
RATE17	CARE OF TOOLS & EQUIP	187	3.47593583	0.87572308	0.06403921
RATE18	WORK HABITS	187	4.20320856	0.83046196	0.06072939
RATE19	JOB FINDING SKILLS	186	4.05913978	0.90747485	0.06653928
RATE20	HR SKILLS	185	4.20540541	0.75251244	0.05532581
INSTRUCT	ITEMS 6,9,11,12,14,17-20	188	26.46808511	3.58458413	0.26143267
---------- CURRENT VOC PROGRAM=HEALTH OCS ----------					
RATE6	MATCH WITH JOB REQUIREMTS	215	4.26511628	0.72307874	0.04931356
RATE9	ONLY TECHNICAL SKILLS	215	3.55313953	1.25121111	0.08533189
RATE11	INSTRUCTOR SKILLS	213	4.52582160	0.77431644	0.05305529
RATE12	JOB EXPECTATIONS	215	4.48837209	0.66177660	0.04513279
RATE14	JOB OPENING INFO	214	4.03271028	0.85242275	0.05827042
RATE17	CARE OF TOOLS & EQUIP	215	4.38604651	0.66613034	0.04542971
RATE18	WORK HABITS	215	4.53953488	0.60917423	0.04154534
RATE19	JOB FINDING SKILLS	214	3.86448598	0.91176477	0.06232696
RATE20	HR SKILLS	215	4.30697674	0.76040918	0.05185948
INSTRUCT	ITEMS 6,9,11,12,14,17-20	216	29.50462963	3.11335059	0.21183722
---------- CURRENT VOC PROGRAM=OCCUP HOME ECON ----------					
RATE6	MATCH WITH JOB REQUIREMTS	98	3.95918367	0.82385024	0.08322144
RATE9	ONLY TECHNICAL SKILLS	94	3.37234043	1.21800156	0.12562727
RATE11	INSTRUCTOR SKILLS	98	4.38775510	0.83274051	0.08411949
RATE12	JOB EXPECTATIONS	99	4.08080808	0.80403025	0.08080808
RATE14	JOB OPENING INFO	98	4.06122449	0.75731929	0.07650030
RATE17	CARE OF TOOLS & EQUIP	98	4.20408163	0.78594655	0.07939279
RATE18	WORK HABITS	97	4.23711340	0.86329306	0.08765413
RATE19	JOB FINDING SKILLS	96	3.91666667	1.06293206	0.10848505
RATE20	HR SKILLS	98	4.26571429	0.83727590	0.08457764
INSTRUCT	ITEMS 6,9,11,12,14,17-20	99	28.27272727	3.30990530	0.33265800

MEANS FOR ITEMS ASSESSING INSTRUCTION QUALITY AND TOTAL SCORE
FOR STUDENTS IN DIFFERENT VOCATIONAL AREAS
TOTAL SCORE (INSTRUCT) HAS MISSING VALUES RECODED TO 3.0

VARIABLE	LABEL	N	MEAN	STANDARD DEVIATION	STD ERROR OF MEAN
---------- CURRENT VOC PROGRAM=TECHNICAL EDUC ----------					
RATE6	MATCH WITH JOB REQUIREMTS	85	3.76470588	0.92127059	0.09992583
RATE9	ONLY TECHNICAL SKILLS	85	3.29411765	1.21325545	0.13159603
RATE11	INSTRUCTOR SKILLS	85	4.27058824	1.02803830	0.11150641
RATE12	JOB EXPECTATIONS	85	3.91764706	0.80924479	0.09645214
RATE14	JOB OPENING INFO	85	3.52941176	0.97036406	0.10530499
RATE17	CARE OF TOOLS & EQUIP	85	4.11764706	0.95632935	0.10372848
RATE18	WORK HABITS	85	4.14117647	0.74246919	0.08053209
RATE19	JOB FINDING SKILLS	85	3.50588235	1.14042107	0.12369603
RATE20	HR SKILLS	85	3.80000000	1.00947888	0.10949336
INSTRUCT	ITEMS 6,9,11,12,14,17-20	86	26.62790698	4.07300008	0.43920289
---------- CURRENT VOC PROGRAM=TRADE & INDUSTRIAL OCS ----------					
RATE6	MATCH WITH JOB REQUIREMTS	590	3.73898305	0.86017666	0.03541291
RATE9	ONLY TECHNICAL SKILLS	588	3.23639456	1.22588574	0.05055468
RATE11	INSTRUCTOR SKILLS	583	4.47512864	0.78799995	0.03263562
RATE12	JOB EXPECTATIONS	586	4.08703072	0.84181472	0.03477505
RATE14	JOB OPENING INFO	590	3.51864407	0.98313013	0.04047483
RATE17	CARE OF TOOLS & EQUIP	589	4.23429542	0.79503907	0.03275901
RATE18	WORK HABITS	588	4.21088435	0.78946464	0.03255697
RATE19	JOB FINDING SKILLS	587	3.50255537	1.01586911	0.04192941
RATE20	HR SKILLS	590	3.95423729	0.87965536	0.03621484
INSTRUCT	ITEMS 6,9,11,12,14,17-20	591	27.20642978	3.38661762	0.13930683
---------- CURRENT VOC PROGRAM=OTHER ----------					
RATE6	MATCH WITH JOB REQUIREMTS	418	3.82535885	0.82271586	0.04024035
RATE9	ONLY TECHNICAL SKILLS	418	3.18660287	1.18295613	0.05785538
RATE11	INSTRUCTOR SKILLS	417	4.34772182	0.86683046	0.04244887
RATE12	JOB EXPECTATIONS	420	4.01190476	0.83899655	0.04093884
RATE14	JOB OPENING INFO	416	3.45192308	1.00485384	0.04926701
RATE17	CARE OF TOOLS & EQUIP	421	4.23277910	0.69554304	0.03389869
RATE18	WORK HABITS	419	4.16229117	0.76855041	0.03755103
RATE19	JOB FINDING SKILLS	416	3.40865385	1.09822293	0.05384481
RATE20	HR SKILLS	421	3.89311164	0.91311871	0.04450268
INSTRUCT	ITEMS 6,9,11,12,14,17-20	421	26.92161520	3.52217915	0.17166051

APPENDIX C-V.1

TABLE V.1
Future Plans of Students Enrolled in
Different Vocational Programs

Future Plans		No Response	Definitely Will	Probably Will	Not Sure	Probably Will Not	Definitely Will Not
AGRICULTURAL EDUCATION PROGRAMS (N=130)							
1. Related Training --JCC	#	1	22	14	38	31	24
	%	.8	16.9	10.8	29.2	23.9	18.5
2. Unrelated Training--JCC	#	1	9	15	33	32	40
	%	.8	6.9	8.3	25.4	24.6	30.8
3. 4-year College Degree	#	1	23	18	28	22	38
	%	.8	17.7	13.9	21.5	16.9	29.2
4. Training Related Employment	#	1	25	42	35	16	11
	%	.8	19.2	32.3	26.9	12.3	8.5
5. Unrelated Employment	#	2	10	12	41	38	27
	%	1.5	7.7	9.2	31.5	29.2	20.8
6. Private Vocational School	#	1	2	3	24	36	64
	%	.8	1.5	2.3	18.5	27.7	49.2
BUSINESS & OFFICE OCCUPATIONS PROGRAMS (N=358)							
1. Related Training --JCC	#	2	57	57	89	84	69
	%	.6	15.9	15.9	24.9	23.5	19.3
2. Unrelated Training--JCC	#	5	11	22	69	110	141
	%	1.4	3.1	6.2	19.3	30.7	39.4
3. 4-year College Degree	#	3	115	41	55	59	85
	%	.8	32.1	11.5	15.4	16.5	23.7
4. Training Related Employment	#	1	128	120	78	19	12
	%	.3	35.8	33.5	21.8	10.1	3.4
5. Unrelated Employment	#	3	11	28	88	126	102
	%	.8	3.1	7.8	24.6	35.2	28.5
6. Private Vocational School	#	5	7	11	47	94	194
	%	1.4	2.0	3.1	13.1	26.3	54.2

TABLE V.1 (CONTINUED)
Future Plans of Students Enrolled in
Different Vocational Programs

Future Plans		No Response	Definitely Will	Probably Will	Not Sure	Probably Will Not	Definitely Will Not
DISTRIBUTIVE EDUCATION PROGRAMS (N=188)							
1. Related Training —JCC	#	2	8	22	70	50	36
	%	1.1	4.3	11.7	37.2	26.6	19.2
2. Unrelated Training—JCC	#	3	8	20	64	54	39
	%	1.6	4.3	10.6	34.0	28.7	20.7
3. 4-year College Degree	#	2	55	27	40	31	33
	%	1.1	29.3	14.4	21.3	16.5	17.6
4. Training Related Employment	#	2	21	63	56	30	16
	%	1.1	11.2	33.5	29.8	16.0	8.5
5. Unrelated Employment	#	3	13	22	70	51	29
	%	1.6	6.9	11.7	37.2	27.1	15.4
6. Private Vocational School	#	5	5	5	44	52	77
	%	2.7	2.7	2.7	23.4	27.7	41.0
HEALTH OCCUPATIONS EDUCATION PROGRAMS (N=216)							
1. Related Training —JCC	#	3	56	51	56	27	23
	%	1.4	25.9	23.6	25.9	12.5	10.7
2. Unrelated Training—JCC	#	6	8	18	30	62	92
	%	2.8	3.7	8.3	13.9	28.7	43.0
3. 4-year College Degree	#	3	55	32	45	38	43
	%	1.4	25.5	14.8	20.8	17.6	19.9
4. Training Related Employment	#	5	114	61	22	14	5
	%	1.9	52.8	28.2	10.2	6.5	.5
5. Unrelated Employment	#	4	2	17	42	58	93
	%	1.9	.9	7.9	19.4	26.9	43.1
6. Private Vocational School	#	5	4	12	33	66	96
	%	2.3	1.9	5.6	15.3	30.6	44.4

TABLE V.1 (CONTINUED)
Future Plans of Students Enrolled in
Different Vocational Programs

Future Plans		No Response	Definitely Will	Probably Will	Not Sure	Probably Will Not	Definitely Will Not
OCCUPATIONAL HOME ECONOMICS PROGRAMS (N=99)							
1. Related Training --JCC	#	1	9	17	28	21	23
	%	1.0	9.1	17.2	28.3	21.2	23.2
2. Unrelated Training--JCC	#	2	7	10	22	23	35
	%	2.0	7.1	10.1	22.2	23.2	35.4
3. 4-year College Degree	#	1	19	13	18	23	25
	%	1.0	19.2	13.1	18.2	23.2	25.3
4. Training Related Employment	#	1	26	36	16	13	7
	%	1.0	26.3	36.4	16.2	13.1	7.1
5. Unrelated Employment	#	2	8	19	32	19	19
	%	2.0	8.1	19.2	32.3	19.2	19.2
6. Private Vocational School	#	2	4	5	19	20	49
	%	2.0	4.0	5.1	19.2	20.2	49.5
TECHNICAL EDUCATION PROGRAMS (N=86)							
1. Related Training --JCC	#	1	15	14	29	16	11
	%	1.2	17.4	16.3	33.7	18.6	12.8
2. Unrelated Training—JCC	#	2	2	9	21	26	26
	%	2.3	2.3	10.5	24.4	30.2	30.2
3. 4-year College Degree	#	1	9	12	18	22	24
	%	1.2	10.5	14.0	20.9	25.6	27.9
4. Training Related Employment	#	1	25	23	24	9	4
	%	1.2	29.1	26.7	27.9	10.5	4.7
5. Unrelated Employment	#	1	3	14	24	22	22
	%	1.2	3.5	16.3	27.9	25.6	25.6
6. Private Vocational School	#	3	4	4	19	28	28
	%	3.5	4.7	4.7	22.1	32.6	32.6

TABLE V.1 (CONTINUED)
Future Plans of Students Enrolled in
Different Vocational Programs

Future Plans		No Response	Definitely Will	Probably Will	Not Sure	Probably Will Not	Definitely Will Not
TRADE & INDUSTRIAL EDUCATION PROGRAMS (N=591)							
1. Related Training —JCC	#	2	63	79	214	138	95
	%	.3	10.7	13.4	36.2	23.4	16.1
2. Unrelated Training—JCC	#	5	25	52	147	196	166
	%	.9	4.2	8.8	24.9	33.2	28.1
3. 4-year College Degree	#	5	68	62	108	151	197
	%	.9	11.5	10.5	18.3	25.6	33.3
4. Training Related Employment	#	7	155	205	146	50	28
	%	1.2	26.2	34.7	24.7	8.5	4.7
5. Unrelated Employment	#	9	27	77	208	163	107
	%	1.5	4.6	13.0	35.2	27.6	18.1
6. Private Vocational School	#	6	18	30	149	180	208
	%	1.0	3.1	5.1	25.2	30.5	35.2
OTHER VOCATIONAL PROGRAMS (N=421)							
1. Related Training —JCC	#	1	50	59	134	111	66
	%	.2	11.9	14.0	31.8	26.4	15.7
2. Unrelated Training—JCC	#	4	18	29	110	134	126
	%	1.0	4.3	6.9	26.1	31.8	29.9
3. 4-year College Degree	#	4	67	48	75	87	140
	%	1.0	15.9	11.4	17.8	20.7	33.3
4. Training Related Employment	#	1	117	142	106	35	20
	%	.2	27.8	33.7	25.2	8.3	4.8
5. Unrelated Employment	#	2	12	59	155	113	80
	%	.5	2.9	14.0	36.8	26.8	19.0
6. Private Vocational School	#	4	11	15	83	132	176
	%	1.0	2.6	15.6	19.7	31.4	41.8

APPENDIX C-V.2

TABLE V.2
Future Plans of Students by
Employment Status

Future Plans		No Response	Definitely Will	Probably Will	Not Sure	Probably Will Not	Definitely Will Not
EMPLOYED FULL-TIME (N=173)							
1. Related Training --JCC	#	2	23	21	55	49	23
	%	1.2	13.3	12.1	31.8	28.3	13.3
2. Unrelated Training--JCC	#	1	6	15	53	55	43
	%	.6	3.5	8.7	30.6	31.8	24.9
3. 4-year College Degree	#	1	21	26	42	35	48
	%	.6	12.1	15.0	24.3	20.2	27.8
4. Training Related Employment	#	2	48	41	48	25	9
	%	1.2	27.8	23.7	2 7.8	14.5	5.2
5. Unrelated Employment	#	1	10	21	66	35	40
	%	.6	5.8	12.1	38.2	20.2	23.1
6. Private Vocational School	#	2	3	4	36	57	71
	%	1.2	1.7	2.3	20.8	33.0	41.0
EMPLOYED PART-TIME (N=1033)							
1. Related Training --JCC	#	8	150	156	314	238	167
	%	.8	14.5	15.1	30.4	23.0	16.2
2. Unrelated Training--JCC	#	17	50	79	254	318	315
	%	1.7	4.8	7.7	24.6	30.8	30.5
3. 4-year College Degree	#	9	255	125	177	196	271
	%	.9	24.7	12.1	17.1	19.0	26.2
4. Training Related Employment	#	11	280	339	268	93	42
	%	1.1	27.1	32.8	25.9	9.0	4.1
5. Unrelated Employment	#	14	45	114	317	299	244
	%	1.4	4.4	11.0	30.7	28.9	23.6
6. Private Vocational School	#	18	29	39	216	285	446
	%	1.7	2.8	3.8	20.9	27.6	43.2

TABLE V.2 (CONTINUED)
Future Plans of Students by
Employment Status

Future Plans		No Response	Definitely Will	Probably Will	Not Sure	Probably Will Not	Definitely Will Not
			NOT EMPLOYED (N=741)				
1. Related Training --JCC	#	3	86	118	237	167	130
	%	.4	11.6	15.9	32.0	22.5	17.5
2. Unrelated Training--JCC	#	9	27	69	161	217	258
	%	1.2	3.6	9.3	21.7	29.3	34.8
3. 4-year College Degree	#	10	118	84	141	164	224
	%	1.4	15.9	11.3	19.0	22.1	30.2
4. Training Related Employment	#	5	251	255	137	55	38
	%	.7	33.9	34.4	18.5	7.4	5.1
5. Unrelated Employment	#	10	30	82	237	219	163
	%	1.4	4.1	11.1	32.0	29.6	22.0
6. Private Vocational School	#	10	22	31	139	218	321
	%	1.4	3.0	4.2	18.8	29.4	43.3

APPENDIX C-V.3

TABLE V.3
Future Plans of Students with
Jobs Related or Unrelated to Current Training

Future Plans		No Response	Definitely Will	Probably Will	Not Sure	Probably Will Not	Definitely Will Not
EMPLOYED IN TRAINING RELATED JOBS (N=614)							
1. Related Training --JCC	#	4	85	76	192	144	113
	%	.7	13.8	12.4	31.3	23.5	18.4
2. Unrelated Training--JCC	#	7	23	52	157	183	192
	%	1.1	3.8	8.5	25.6	29.8	31.3
3. 4-year College Degree	#	4	148	72	120	113	157
	%	.7	24.1	11.7	19.5	18.4	25.6
4. Training Related Employment	#	6	186	198	143	56	25
	%	1.0	30.3	32.3	23.3	9.1	4.1
5. Unrelated Employment	#	8	25	64	177	172	168
	%	1.3	4.1	10.4	28.8	28.0	27.4
6. Private Vocational School	#	10	16	22	121	165	280
	%	1.6	2.6	3.6	19.7	26.9	45.6
EMPLOYED IN JOBS NOT RELATED TO TRAINING (N=759)							
1. Related Training --JCC	#	7	114	122	235	175	106
	%	.9	15.0	16.1	31.0	23.1	14.0
2. Unrelated Training--JCC	#	12	37	64	181	242	223
	%	1.6	4.9	8.4	23.9	31.9	29.4
3. 4-year College Degree	#	7	147	100	134	156	215
	%	.9	19.4	13.2	17.7	20.6	28.3
4. Training Related Employment	#	8	178	248	209	80	36
	%	1.1	23.5	32.7	27.5	10.5	4.7
5. Unrelated Employment	#	8	35	105	255	203	153
	%	1.1	4.6	13.8	33.6	26.8	20.2
6. Private Vocational School	#	12	19	35	163	229	301
	%	1.6	2.5	4.6	21.5	30.2	39.7

APPENDIX C-VI

TABLE VI.1
Expected Distance to Post-Graduation
Training Site or Employment Location

Future Plans		Anticipated Distance: Unknown	0-20 Miles	20-40 Miles	40-60 Miles	60-80 Miles	80-100 Miles	Over 100 Miles	TOTAL
1. Related training--JCC									
Definitely Will		6	104	60	32	19	14	57	316
Probably Will		15	111	68	25	16	10	62	283
TOTAL	#	21	215	128	57	35	24	119	599
	%	3.5	35.9	21.4	9.5	5.8	4.0	19.9	---
2. Unrelated training--JCC									
Definitely Will		4	28	9	9	9	0	29	88
Probably Will		7	72	27	12	7	4	51	180
TOTAL	#	11	100	36	21	16	4	80	268
	%	4.1	37.3	13.4	7.8	6.0	1.5	29.9	---
3. 4-year college degree									
Definitely Will		7	126	40	31	36	30	144	414
Probably Will		5	82	44	30	12	15	67	255
TOTAL	#	12	208	84	61	48	45	211	669
	%	1.8	31.1	12.6	9.1	7.2	6.7	31.5	---
4. Training related employment									
Definitely Will		18	256	120	50	28	14	128	614
Probably Will		20	267	140	66	31	25	148	697
TOTAL	#	38	523	260	116	59	39	276	1311
	%	2.9	39.9	19.8	8.8	4.5	3.0	21.1	----
5. Unrelated employment									
Definitely Will		1	31	10	5	1	0	40	88
Probably Will		5	106	42	16	9	10	61	249
TOTAL	#	6	137	52	21	10	10	101	337
	%	1.8	40.6	15.4	6.2	3.0	3.0	30.0	---
6. Private vocational school									
Definitely Will		0	15	7	3	3	2	27	57
Probably Will		2	28	15	6	7	3	24	85
TOTAL	#	2	43	22	9	10	5	51	142
	%	1.4	30.3	15.5	6.4	7.0	3.5	35.9	---